

C O N V A I R.
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL 10,158 Dtd _____
CHANGE NO: 100 MODEL: (880) 22-2

TITLE: **Tinted Interior Cabin Windows, Installation of**

ORIGIN: **TWA requested, Reference: TWA TWX dated 15 October 1957; and Convair proposed for Delta.**

REASON FOR CHANGE:

To provide tinted plexiglass in interior cabin windows in lieu of clear plexiglass.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 100

Title: Tinted Interior Cabin Windows, Installation of

Origin: TWA requested, Reference: TWA TWX dated 15 October 1957;
and Convair proposed for Delta.

Reason for Change: To provide tinted plexiglass in interior cabin
windows in lieu of clear plexiglass.

Description of Change:

Page 28, Paragraph 3.7.1.4 WINDOWS:

Add the following to the end of the paragraph:

"All interior cabin windows shall be tinted with a "cast-in"
grey color, equivalent to ROHM-HAAS Plexiglass Grey 2094".

Effect on Weight Empty: O
Effect on Balance: O
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO. ZD- 22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,155 DTD 28 October 1957

CHANGE NO. 99A

MODEL: (880) 22-2

TITLE: 52-Inch Wide Passenger Seats, Installation of

ORIGIN: Joint Convair and National Seating Meeting with Delta at Santa Monica on 22 July 1958

REASON FOR CHANGE: To provide a seat in accordance with Customer comments.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
QUAR. WT. EMPTY	OPER. WT. EMPTY	INCH LB.
See attached sheet.		

EFFECT ON GUARANTEED PERFORMANCE: * None

<p>* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL</p> <p>ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:</p>	ENGINEERING APPROVAL
--	----------------------

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:
----------------------------	---------------------

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____ CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 99A

WEIGHT DATA

PROPOSAL "A"

Effect on Guaranteed Weight Empty:	✓98.0 pounds
Effect on Operating Weight Empty:	✓98.0 pounds
Effect on Balance:	✓85,848 inch-pounds
Effect on Performance:	None

PROPOSAL "B"

Effect on Guaranteed Weight Empty:	✓123.0 pounds
Effect on Operating Weight Empty:	✓123.0 pounds
Effect on Balance:	✓107,748 inch-pounds
Effect on Performance:	None

PROPOSAL "C"

Effect on Guaranteed Weight Empty:	✓131.0 pounds
Effect on Operating Weight Empty:	✓131.0 pounds
Effect on Balance:	✓114,756 inch-pounds
Effect on Performance:	None

PROPOSAL "D"

Effect on Guaranteed Weight Empty:	✓156.0 pounds
Effect on Operating Weight Empty:	✓156.0 pounds
Effect on Balance:	✓136,656 inch-pounds
Effect on Performance:	None

CONVAIR: SD

Delta Air Lines Inc.
Change No. 99A

Page 1 of 5

Title: 52-Inch Wide Passenger Seats, Installation of

Origin: Joint Convair and National Seating Meeting with Delta at Santa Monica on 22 July 1958

Reason for Change: To provide a seat in accordance with Customer comments.

Description of Change:

PROPOSAL "A"

Page 104, Paragraph 3.19.1.1.6 PASSENGER SEATS:

Add the following to the end of the paragraph:

"Hole provisions on seat base shall be made for the future incorporation of optional two-position tubular foot rest."

Figure 1-2, INBOARD PROFILE AND PLAN VIEW:

Revise figure to show the following seat width and spacing:

- "a. 52.0 inches - total width
- b. 3.2 inches - side arm width
- c. 5.0 inches - center arm width
- d. 20.2 inches - clearance between arms, each seat."

Figure 1-3, ALTERNATE SEATING ARRANGEMENT:

Revise Standard Section of "Mixed Seating Arrangement" of figure in same manner as Figure 1-2.

Enclosure: (A) One copy sketch "CONVAIR 880 52" SEAT", Sheets 1 through 4 (for information only)

Effect on Weight Empty: 498.0 pounds
Effect on Balance: 485,848 inch-pounds
Effect on Performance: None

The following shall not appear in the Specification language:

See CCP No. 138, Cabin Interior Modification and 12-Place Club Area, for revision of four cabin double seats and two lounge double

seats to four double and one quadruple club area seats.

Equipment interchangeability for standard seats is covered in CCP No. 138.

The increase represented by Proposal "A" is for the following:

- a. Increased structure and trim of center arm rest.
- b. Increased width of each back structure and padding.
- c. Increased width of each bottom structure and cushions.
- d. Increased width of each food tray and food tray supporting structure.

Plug-in food trays shall be provided for four seat places aft of club area partition. Plug-in food trays shall be shipped as loose equipment for four seat places aft of movable coat dividers. Plug-in receptacles shall be installed on two rows of cabin seats per airplane. Mounting provisions shall be made for plug-in receptacles on all cabin seat places. Plug-in receptacles shall be shipped as loose equipment for all cabin passenger seats except those as installed above.

CONVAIR: SD

Delta Air Lines Inc.
Change No. 99A

Page 3 of 5

PROPOSAL "B"

Same as Proposal "A" except, add the following to the end of paragraph 3.19.1.1.6 PASSENGER SEATS:

"The following shall be provided: wide outside arms."

Effect on Weight Empty: 4123.0 pounds
Effect on Balance: 4107,748 inch-pounds
Effect on Performance: None

CONVAIR: SD

Delta Air Lines Inc.
Change No. 99A

Page 4 of 5

PROPOSAL "C"

Same as Proposal "A" except add the following to the end of paragraph
3.19.1.1.6 PASSENGER SEATS:

"The following shall be provided: hydraulic recline locks."

Effect on Weight Empty: ~~1~~131.0 pounds
Effect on Balance: ~~1~~114,756 inch-pounds
Effect on Performance: None

CONVAIN: SD

Delta Air Lines Inc.
Change No. 99A

Page 5 of 5

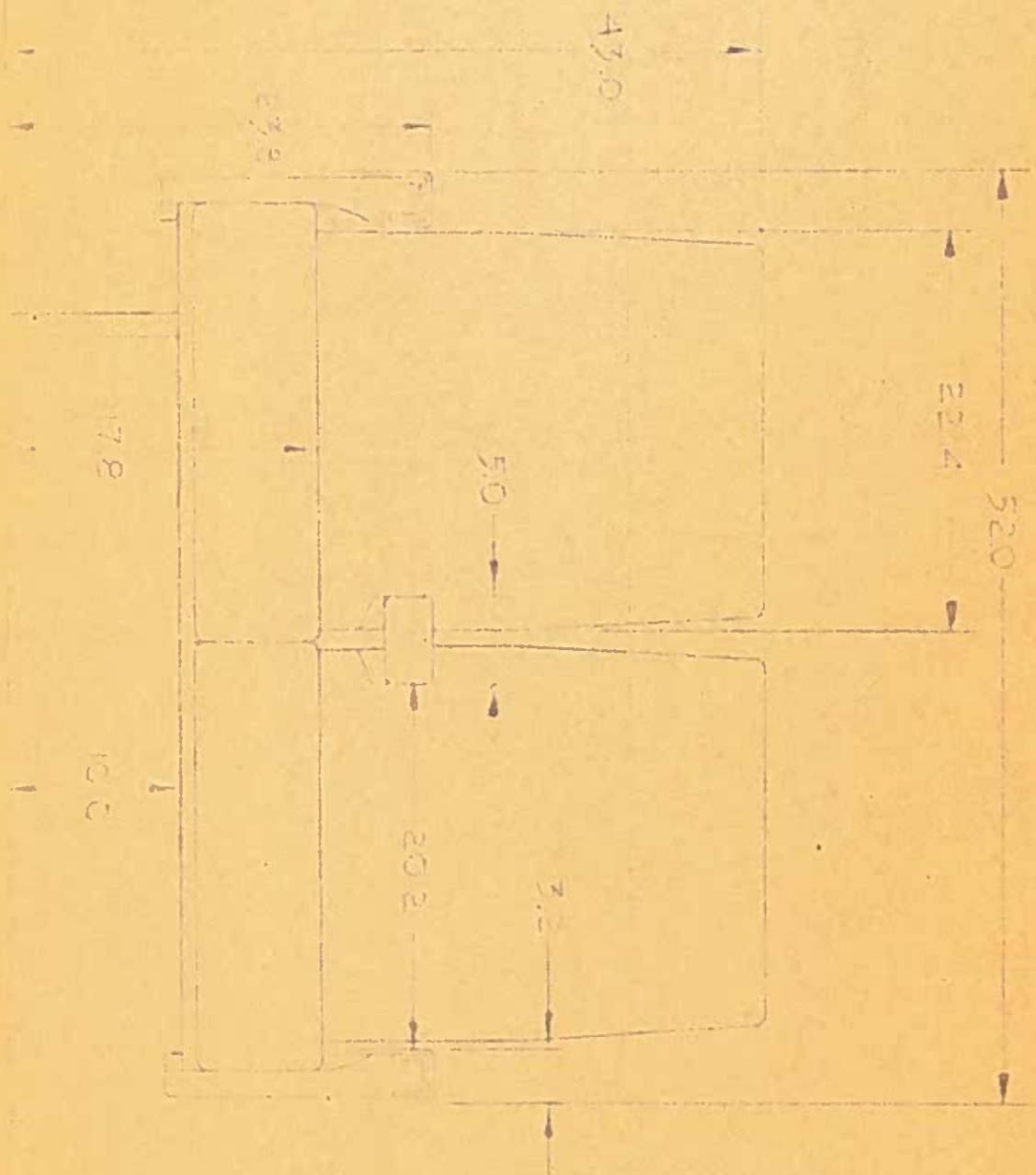
PROPOSAL "D"

Same as Proposal "A" except add the following to the end of paragraph 3.19.1.1.6 PASSENGER SEATS:

"The following shall be provided: wide outside arms and hydraulic recline locks."

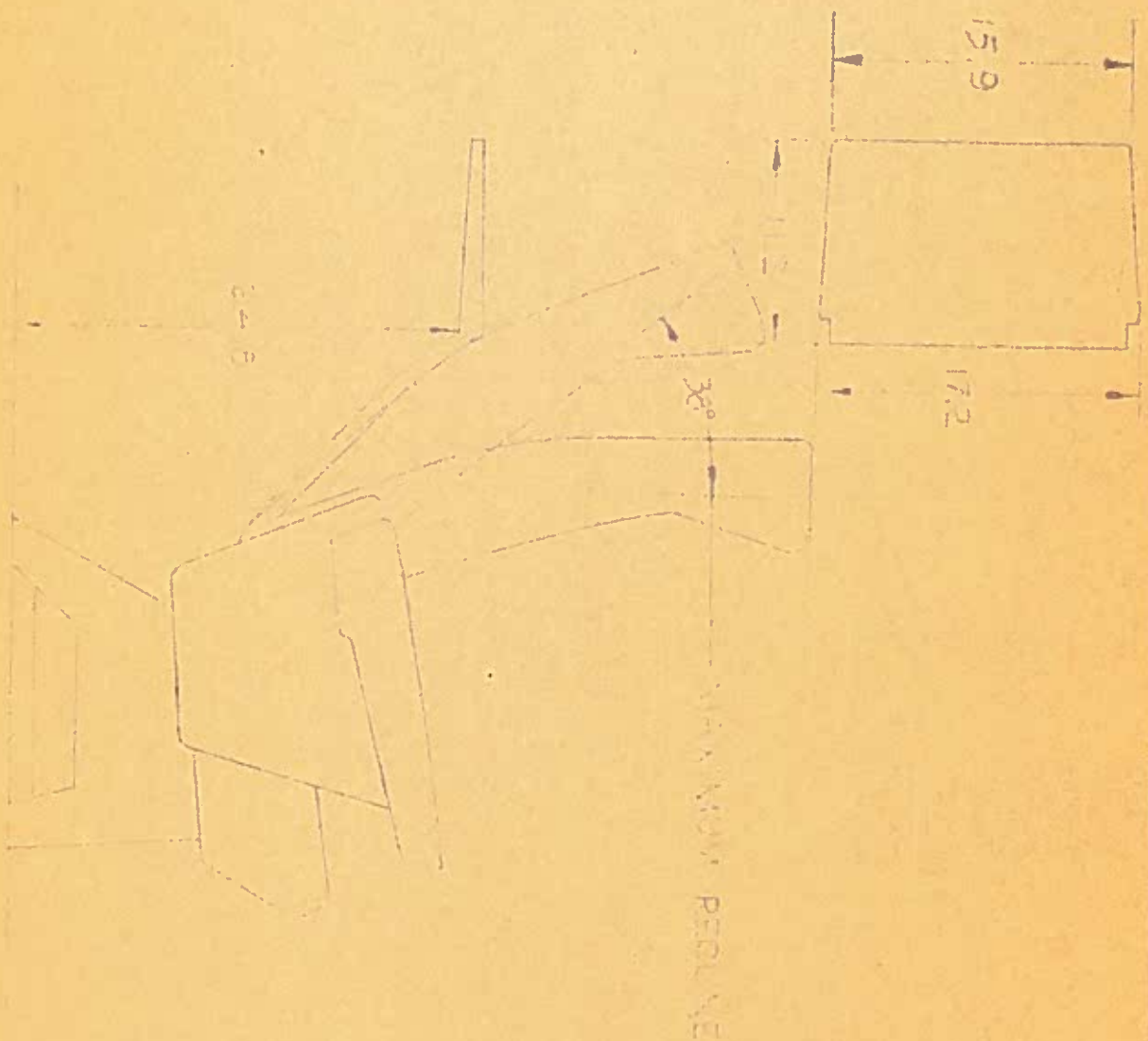
Effect on Weight Empty: 4156.0 pounds
Effect on Balance: 4136,656 inch-pounds
Effect on Performance: None

Enclosure to CCP No. 99A



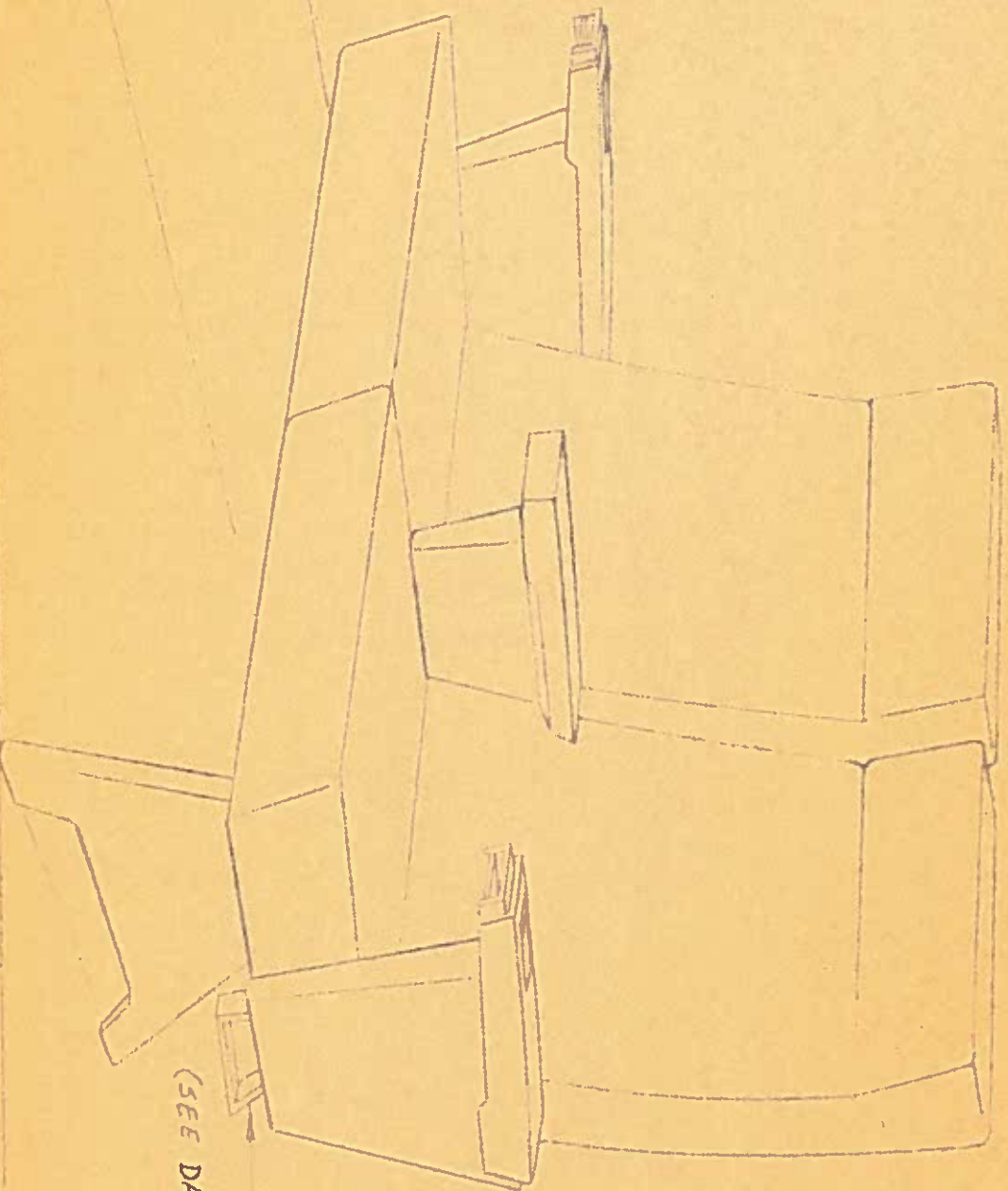
CONVIR 880 52 SEAT - DELTA

Enclosure to CCP No. 99A



CONVAIR 880 52 SEAT - DELTA

Enclosure to CCP No. 99A



OPTIONAL

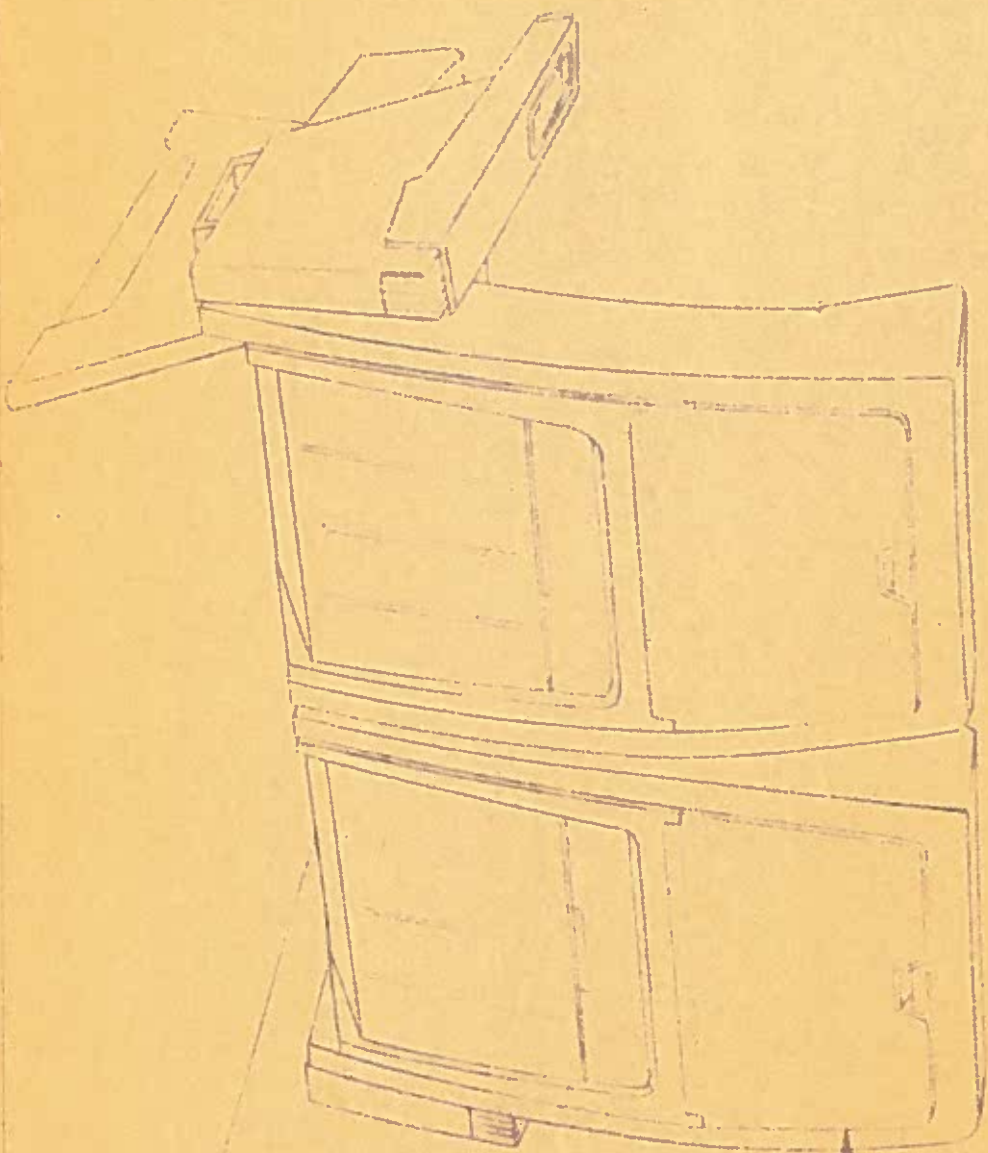
STUPESS

72"

(SEE DAL CCP = 191)

CONV. 850 52" SEAT

Enclosure to CCP No. 99A



INTEGRAL
FOOD TRAY
(OPTIONAL)

CONVAIR 880 52" SEAT

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____
Rev. 12 December 1957

CUSTOMER: Delta Air Lines Inc.

MCL 10,156A Dtd 18 November 1957

CHANGE NO: 98

MODEL: (880) 22-2

TITLE: Refueling Illumination Lights, Installation of

ORIGIN: Reference: Delta comments on Mock-Up reviews of 27 February and 22 August 1957.

REASON FOR CHANGE: Customer requested.

Rejected

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+3.3 lbs

+3.3 lbs

+2937 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 98

Title: Refueling Illumination Lights, Installation of

Origin: Reference: Delta comments on Mock-Up reviews of 27 February
& 22 August 1957.

Reason for Change: Customer requested.

Description of Change:

Page 75, add the following new paragraphs to the page:

"3.16.8.1.7 REFUELING ILLUMINATION LIGHTS: A white light, not to exceed 15 cp, shall be installed, one each in the inboard pylon wing fairings to provide illumination at the wing lower surface refueling points.

3.16.8.1.7.1 CONTROL: Control of the refueling illumination lights shall be through the existing micro-switches, located one each in the refueling panels on the left and right hand inboard pylons, for automatic energizing of the refueling illumination lights when the refueling panel doors are opened."

Effect on Weight Empty: +3.3 pounds
Effect on Balance: +2937 inch-pounds
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 3

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL _____ Dtd _____

CHANGE NO: 97

MODEL: (880) 22- 2

TITLE: **Specification Administrative Change**

ORIGIN: **Convair initiated**

REASON FOR CHANGE: **To incorporate Convair Standard Wiring Specification No. O-09001 into the Detail Specification as a replacement for Wiring Specification No. ZM-256.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0

Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 97

Title: Specification Administrative Change

Origin: Convair initiated

Reason for Change: To incorporate Convair Standard Wiring Specification No. 0-09001 into the Detail Specification as a replacement for Wiring Specification No. ZM-256.

Description of Change:

Page 7, Paragraph 2.1 APPLICABLE SPECIFICATIONS:

Change third item in Specification list as follows:

From: Convair Electrical and Electronic Installation Specification ZM-256".

To: "Convair Installation of Aircraft Electrical and Electronics Wiring Specification No. 0-09001".

Delete "ZM-256" where appearing in the following Specification sections, and substitute "0-09100".

Page 66, Paragraph 3.16.3, in third line.

Page 67, Paragraph 3.16.5.1, in fourth line.

Page 68, Paragraph 3.16.5.6, in third line.

Page 70, Paragraph 3.16.6, in fourth line.

Page 92, Paragraph, 3.17.1.3, in second line.

Paragraph, 3.17.1.3.2, in third line.

Page 94, Paragraph, 3.17.1.3.8, in second line

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL --- Dtd ---

CHANGE NO: 96

MODEL: (880) 22-2

TITLE: **Specification Administrative Change**

ORIGIN: Convair initiated.

REASON FOR CHANGE: To clarify the intent of the Specification.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR SD

Delta Air Lines Inc.
Change No. 96

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 96, Paragraph 3.17.1.7 CIRCUIT PROTECTION:

Revise third sentence as follows:

From: "All circuit breakers shall have switch type handles."

To: "All circuit breaker switches shall be of the push-pull type."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL --- Dtd ---
CHANGE NO: 95 MODEL: (880) 22- 2

TITLE: Flush Type Mooring Attachments, Deletion of

ORIGIN: Reference: Delta Letter, File 142, dated 4 April 1957

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
-4.0 lbs	-4.0 lbs	-4004 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 95

Title: Flush Type Mooring Attachments, Deletion of

Origin: Reference: Delta Letter, File 142, dated 4 April 1957

Reason for Change: Customer requested.

Description of Change:

Page 124, Paragraph 3.22.3 MOORING PROVISIONS:

Delete the first sentence and substitute the following:

"Special mooring attachments shall not be provided."

Effect on Weight Empty:	-4.0 pounds
Effect on Balance:	-4004 inch-pounds
Effect on Performance:	None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,167 Dtd 5 December 1957

CHANGE NO: 93A

MODEL: (880) 22-2

TITLE: **Applicable Federal Regulations**

ORIGIN: **Contractor initiated.**

REASON FOR CHANGE: **To incorporate all applicable Federal Regulations, which relate to CAA certification of the airplane, into the Detail Specification; and revision to CCP No. 93.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+2.5 lbs

+2.5 lbs

+1,438 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 93A

Title: Applicable Federal Regulations

Origin: Contractor initiated.

Reason for Change: To incorporate all applicable Federal Regulations, which relate to CAA certification of the airplane, into the Detail Specification; and revision to CCP No. 93.

Description of Change:

Page 7, Paragraph 2.1 APPLICABLE SPECIFICATIONS:

Delete paragraph title and the first ten lines of the paragraph and substitute the following:

"2.1 APPLICABLE FEDERAL REGULATIONS: Civil Air Regulation Part 4b as amended to 31 December 1953 and amendments:

4b-1 adopted 13 April 1954
4b-2 adopted 20 July 1955
4b-3 adopted 7 February 1956
4b-4 adopted 25 February 1957
4b-5 adopted 5 March 1957
4b-6 adopted 8 July 1957
4b-7 adopted 12 September 1957; and

Special Civil Air Regulation SR-422 adopted 23 July 1957 to the extent that Part 4b, said amendments and Special Civil Air Regulation apply to turbo-jet powered transport land type airplanes, and special rulings as necessary to obtain an airworthiness type certificate in the transport category. Civil Air Board Regulations, amendments and special regulations and Civil Aeronautics Administration rules, policies and interpretations which become effective after 27 August 1957 shall be subject to the change order procedures in the Purchase Agreement."

Add the following new paragraph to Page 74:

"3.16.8.1.2.2 LANDING LIGHT INDICATOR LIGHTS: An indicator light for each landing light shall be provided in the pilots' compartment. Indicator lights shall be illuminated when the landing lights are not fully retracted."

Effect on Weight Empty: +2.5 pounds
Effect on Balance: +1,438 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL _____ Dtd _____
CHANGE NO: 92 MODEL: (880) 22-2

TITLE: VHF Communication Antenna, Relocation of

ORIGIN: Contractor Initiated

REASON FOR CHANGE: To provide better performance and a more favorable location.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 92

Title: VHF Communication Antenna, Relocation of

Origin: Contractor Initiated

Reason for Change: To provide better performance and a more favorable location.

Description of Change:

Page 97, Paragraph 3.17.2.1.1 ANTENNA:

Revise the first sentence to read as follows:

"One faired-in type antenna shall be installed on the top center-line of the fuselage."

Page ~~A-4~~^{A-4}, APPENDIX I-C, ELECTRONIC EQUIPMENT:

Change under VHF Communication Antenna:

From: 1 Antenna (Flush Type) Collins 37R-1

To: 1 Antenna (Faired-in Type) Convair

Figure 3.17-3 RADIO GENERAL ARRANGEMENT

Delete: The above present Figure 3-17-3 and replace with Enclosure (A).

Enclosure: (A) One (1) copy Page 102C, Antenna Arrangement Illustration

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None



ANTENNA ABRA[EMENT]
Figure 3.17-3
(For Antenna location only)

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL --- Dtd ---
CHANGE NO: 91A MODEL: (880) 22-2

TITLE: Structural Provisions for Overwater Operation

ORIGIN: TWA requested and Convair proposed for Delta.

REASON FOR CHANGE: To provide additional strength in underside of fuselage in event water ditching of airplane is necessary; and revision to CCP No. 91.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Delta Air Lines Inc.
Change No. 91A

Title: Structural Provisions for Overwater Operation

Origin: TWA requested and Convair proposed for Delta

Reason for Change: To provide additional strength in underside of fuselage in event water ditching of airplane is necessary; and revision to CCP No. 91.

Description of Change:

Page 24, Paragraph 3.7.1.1 DESCRIPTION:

Add the following sentences to the end of paragraph:

"Structural provisions shall be made, in the fuselage below the cabin floor level only, to permit the airplane to withstand water ditching loads compatible with the results obtained from NACA model tests. The structural provisions shall include reinforcement to the frames, hinges and latches of the following closures:

1. Two cargo doors
2. Electronic compartment access door
3. Hydraulic compartment access door
4. Door at the top of nose wheel well
5. Two miscellaneous equipment access doors (Sta. 221, L. & R.)

Additional local doublers and reinforcement as required shall be provided on the longerons adjacent to the doors."

Effect on Weight Empty: 0 pounds
Effect on Balance: 0 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 3 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL _____ Dtd _____
CHANGE NO: 90 MODEL: (880) 22-2

TITLE: **Specification Administrative Change**

ORIGIN: **Contractor initiated**

REASON FOR CHANGE: **To clarify present specification**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: S.D.

Delta Air Lines Inc.
Change No. 90

Page 1 of 1

Title: Specification Administrative Change

Origin: Contractor Initiated

Reason For Change: To clarify present specification

Description of Change:

Page 74, Paragraph 3.16.8.14 ANTI-COLLISION LIGHTS:

Revise the third sentence to read as follows:

"Drainage provisions shall be made in the lower light to assure fluid drainage as a result of accumulation of condensed moisture or other fluids which may become trapped".

Add the following after the third sentence:

"The installation of the upper light shall be sealed to prevent condensation and the entrance of moisture".

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL _____ Dtd _____

CHANGE NO: 89

MODEL: (880) 22-2

TITLE: **Specification Administrative Change**

ORIGIN: **Contractor initiated**

REASON FOR CHANGE: **To clarify intent of the Specification**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 89

Title: Specification Administrative Change

Origin: Contractor initiated

Reason for Change: To clarify intent of the Specification

Description of Change:

Page 123, Paragraph 3.20.33 PRESSURE CONTROLS:

Revise the last sentence in paragraph to read as follows:

"On the ground, with full compressor output, maximum differential pressure will be less than .3 Hg with .2 Hg as a design objective".

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL 10,148 Dtd _____
CHANGE NO: 88 MODEL: (880) 22- 2

TITLE: Revision of Auto Pilot, Installation of Rotary Rudder Servo in Lieu of Linear Actuator

ORIGIN: Contractor initiated.

REASON FOR CHANGE: To provide interchangeable parts between rudder, aileron and elevator Servo motors; and to improve accessibility for maintenance.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+4.0 lbs

+4.0 lbs

+5228 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Delta Air Lines Inc.
Change No. 88

Title: Revision of Auto Pilot, Installation of Rotary Rudder Servo
in Lieu of Linear Actuator

Origin: Convair initiated.

Reason for Change: To provide interchangeable parts between rudder,
aileron and elevator Servo Motors; and to improve
accessibility for maintenance.

Description of Change:

Page A8, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Under "Auto-Pilot", change the below items as follows:

From: 2 Servo Drive

To: 3 Servo Drive

From: 2 Servo Bracket

To: 3 Servo Braket

Delete "1 Rudder Actuator"

Enclosure: (A) Four (4) copies of sketch showing proposed change from
a linear to a rotary actuator for rudder control system
of autopilot.

Effect on Weight Empty: +4.0 pounds
Effect on Balance: +5228 inch-pounds
Effect on Performance: None

Delta - Change No. 87

Cancelled

(Included in CCP No. I)

(Rev. 10-23-57)

Lab. Charge No. 86

(Cancelled)

Date 10-21-57

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 3 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL _____ Dtd _____
CHANGE NO: 85B MODEL: (880) 22-2

TITLE: **National Aircraft Standard Fasteners, Use of**

ORIGIN: **Contractor initiated**

REASON FOR CHANGE: **To include the high strength NAS bolts and screws
in the standard fastener category specified for
use in the aircraft; and revision to CCP No. 85A**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: S.D.

Delta Air Lines Inc.
Change No. 85B

Page 1 of 1

Title: National Aircraft Standard Fasteners, Use of

Origin: Contractor initiated

Reason for Change: To include the high strength NAS bolts and screws
in the standard fastener category specified for
use in the aircraft; and revision to CCP No. 85A

Description of Change:

Page 2, Paragraph 1.1 SCOPE

Revise second paragraph on page as follows:

"It shall be permissible to use Huck lock bolts, barrel nuts, taper pins, roll pins, shear type camlock fasteners, Hi-shear rivets, Jo-bolts, corrosion resisting steel rivets, internal wrenching bolts as well as AN, MS, NAS and Convair standard fasteners".

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

Exhibit "A", not a part of Specification language.

1. NAS internal wrenching bolts are now part of MS Standards
2. Convair is installing NAS external wrenching bolts and screws in some applications.

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: _____
CUSTOMER: Delta Air Lines Inc. NCL 10,146 DLA 9 October 1957
CHANGE NO: 84 MODEL: (880) 22-2

TITLE: **Deletion of Anti-Icing Provisions and Installation of a Radome Rain Erosion Boot.**

ORIGIN: **Customer request Ref: Convair and Delta meeting Dated 26 Sept. 1957**

REASON FOR CHANGE: **To reduce weight**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-15.0 lbs

-15.0 lbs

-6456

Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 84

Page 1 of 1

Title: Deletion of Anti-icing Provisions and Installation of a
Radome Rain Erosion Boot.

Origin: Customer request, Ref. Convair and Delta Meeting Dated
26 Sept. 1957

Reason for Change: To reduce weight.

Description of Change:

Page 27, Paragraph 3.7.1.2 CONSTRUCTION:

Add the following to end of paragraph:

"A rain erosion boot shall be installed on the nose radome".

Page 102, Paragraph 3.17.4.1 WEATHER PENETRATION AIRBORNE RADAR:

Change the seventh line starting with "An adequate anti-iced radome"

To: "The radome"

Page 121, Paragraph 3.20.2.1 ANTI-ICING OF NONTRANSPARENT AREAS:

Delete the third sentence as follows:

"Adequate anti-icing of the radome shall be provided".

Figure 3.20-1 AIR CONDITIONING SCHEMATIC:

Revise figure as required to reflect above change.

Effect on Weight Empty: -15.0 pounds
Effect on Balance: -64,561 inch-pounds
Effect on Performance: None

COMMERCIAL CHANGE PROPOSAL

DATE: _____

MCL 10,141 Dtd

MODEL: (880) 22-2

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 83A

Title: Emergency Brake System, Revision to

Origin: Verbally requested by TWA and Convair proposed, where applicable, for Delta; and Delta Letter File 142, dated 6 November 1957.

Reason for Change: To change from dual cable to single cable system between brake metering valves and brake pedals; and revision to CCP No. 83.

Description of Change:

Page 64, Paragraph 3.15.1.11 BRAKE VALVE:

Revise the first sentence to read as follows:

"The brake metering valves shall be controlled by a single cable system from the brake pedals."

Figure 3.15-1 HYDRAULIC SYSTEM:

Revise figure to reflect above changes.

Effect on Weight Empty:	-5.0 pounds
Effect on Balance:	-4,236 inch-pounds
Effect on Performance:	None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL --- Dtd ---
CHANGE NO: 82 MODEL: (880) 22-2

TITLE: "Basic T" Instrument Arrangement For The Pilot and Co-Pilot's
Panel and Miscellaneous Corrections.

ORIGIN: In accordance with CAR Amendment 4B-7.

REASON FOR CHANGE: To comply with CAR Amendment 4B-7.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
Guar. Wt. Empty	Oper. Wt. Empty		
Negligible	Negligible	None	Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	Recurring: _____
	Non-Recurring: _____
	Total: _____

ACCEPTED: CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____ BY: _____
DATE: _____ Chief of Contract Administration
Commercial

CONVAIR: S.D.

Delta Air Lines Inc.
Change No. 82

Page 1 of 2

Title: "Basic T" Instrument Arrangement For The Pilot and Co-Pilot's Panel and Miscellaneous Corrections

Origin: In accordance with CAR Amendment 4B-7.

Reason for Change: To comply with CAR Amendment 4B-7.

Description of Change:

Page 58, Paragraph 3.14.1.1 PILOTS INSTRUMENT:

Change last item in Equipment List to read as follows:

"One Power Failure Indicator (essential bus)"

Delete present illustration Figure 3.14-1 and replace with revised attached illustration Figure 3.14-1.

Page A9, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Delete the eighth and ninth items in the Equipment List as follows:

"1 Switch Computer Selector	Kollsman
1 Warning Light	Convair"

NOTE: (Not to be included in Specification language.)

1. The essential bus failure warning lights, as shown on the attached illustration, are as approved on the Mock-Up. The pilots instruments and other equipment are connected to the pilot's essential bus. The power to pilots instruments is taken off the pilots essential bus switch relays, therefore if a failure of the source of power that the pilot has selected occurs the pilot can then choose another source to supply the power.
2. (a) The airspeed electrical warning light has been replaced by Kollsman with an electrical fail indicating flag built into the airspeed instrument.

(b) The air data computer selector switch has been deleted from Appendix I-C since Convair shall supply switching "As Required" to provide satisfactory operation of the KIFIS system.
3. A compass slave switch has been relocated under the C-6 compass to be compatible with basic "T" instrument arrangement.
4. A guarded landing gear down lock override button has been added to the diagram for clarity as shown in the Mock-Up. The

CONVAIR: S.D.

Delta Air Lines Inc.
Change No. 82

Page 2 of 2

landing gear cannot be inadvertently raised on the ground.
If in flight should a malfunction of the ground protection
system occur, the manual override will allow raising of the
handle to retract the gear.

Effect on Weight Empty: Negligible
Effect on Balance: None
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,191 Dtd 10 February 1958

CHANGE NO: 81A

MODEL: (880) 22- 2

TITLE: Vickers Hydraulic Pumps, Installation of

ORIGIN: TWA requested and Convair proposed for Delta.

REASON FOR CHANGE: As above.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
+29.0 lbs	+29.0 lbs	+21,750 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 81A

Title: Vickers Hydraulic Pumps, Installation of

Origin: TWA requested and Convair proposed for Delta.

Reason for Change: As above.

Description of Change:

Page A10, APPENDIX I-C, HYDRAULIC EQUIPMENT:

Change fourth item in Description List as follows:

<u>From</u>	"4 - Main System Pumps (variable displacement type)	Ham. Standard	521415"
<u>To:</u>	"4 - Main System Pumps (variable displacement type)	Vickers	Model 3913"

Effect on Weight Empty: +29.0 pounds
Effect on Balance: +21,750 inch-pounds
Effect on Performance: None

Cal- Charge no. 81

(Rejected)

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL 10,135 Dtd 17 September 1957
CHANGE NO: 80A MODEL: (880) 22-2

TITLE: **15-Ampere Electrical Receptacle, Installation of**

ORIGIN: **TWA requested, Reference: TWA Letter No. 6808-15, dated 13 September 1957; and Convair proposed for Delta**

REASON FOR CHANGE:

To provide a receptacle, and wiring of greater electrical load capacity at the loading ramps; and revision to CCP No. 80.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+1.0 lb

+1.0 lb

+700 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: * **None**

Rejected

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 80A

Title: 15-Ampere Electrical Receptacle, Installation of

Origin: TWA requested, Reference: TWA Letter No. 880S-15, dated 13
September 1957; and Convair proposed
for Delta

Reason for Change: To provide a receptacle, and wiring of greater electrical load capacity at the loading ramps; and revision to CCP No. 80.

Description of Change:

Page 79, Paragraph 3.16.10.8 LOADING RAMP RECEPTACLES:

Revise the paragraph to read as follows:

"External direct-current power receptacles shall be installed, one each, at both passenger loading doors to furnish a maximum of 15 amperes to the loading ramp. The receptacles shall be accessible from the loading ramps. Voltage drop at rear entrance door shall not exceed 2.8 volts."

Effect on Weight Empty: +1.0 pounds
Effect on Balance: +700 inch-pounds
Effect on Performance: None

Lab. Charge No. 80

(Rejected)

Lab. Charge No. 79

(Rejected)

Lab. Charge No. 78

(Cancelled)

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-GO 3

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL _____ Dtd _____

CHANGE NO: 77

MODEL: (880) 22-2

TITLE: **Deletion of Customs Seal Provisions in Cargo Doors**

ORIGIN: **Contractor Initiated**

REASON FOR CHANGE: **Administrative Specification Change**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch l.b.

EFFECT ON GUARANTEED PERFORMANCE: * **None**

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 77

Title: Deletion of Customs Seal Provisions in Cargo Doors

Origin: Contractor Initiated

Reason for Change: Administrative Specification Change

Description of Change:

Page 30, Paragraph 3.7.1.5.4 CARGO DOORS:

Delete fourth sentence, starting on sixth line "(Provisions shall be made to permit cargo doors to be sealed for customs)"

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

C O N V A I R

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,117 DTD ^{Revised} 17 December 1959

CHANGE NO: 76E

MODEL: 22-2 (Convair "880")

TITLE: VGH Recorders, Installation of


ORIGIN: NACA request to install subject equipment

REASON FOR CHANGE: As above, and revision to CCP No. 76D

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY 0	OPER. WT. EMPTY 0 <u>See note on second sheet</u>	 0 INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:	 ENGINEERING APPROVAL
---	--

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:
----------------------------	---------------------

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE: RECURRING: _____ NON-RECURRING: _____ TOTAL: _____
---------------------	---

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 76E

Title: VGH Recorders, Installation of

Origin: NACA request to install subject equipment

Reason for Change: As above, and revision to CCP No. 76D

Description of Change:

Page 62 (Cont), Paragraph 3.14.3.9 VGH RECORDING PROVISIONS:

Revise the paragraph and paragraph title to read as follows:

"VGH RECORDER: One VGH recorder shall be installed on each of two airplanes* to record research data for gust studies. The recorder shall be installed on the autopilot rack and its acceleration transmitter on the floor beam in the rear spar area. The installation shall include mountings, aluminum tubing from the copilot's static line and the pitot line to the recorder, circuit breakers, nameplate and the necessary wiring."

Revise the single asterisk note on bottom of Page 62 (Cont) as follows:

From: "*The specific airplanes on which the VGH recorder provisions shall be installed will be Convair Production No. 16 and 17 (Delta Ship No. 4 and 5)."

To: "*The specific airplanes on which the VGH recorders shall be installed will be Convair Production Nos. 17 and 21 (Delta Ship Nos. 5 and 6)."

Not to be a part of the Specification language:

The following weight effect shall be subtracted from the as weighed figures when considering guaranteed weight of the affected airplanes and is not to be included in the accumulative specification weight figures.

Effect on Weight: +20.0 pounds
Effect on Balance: +8,334 inch-pounds
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,131 Dtd _____

CHANGE NO: 75A

MODEL: (880) 22- 2

TITLE: **Fuses, Increase in Spares of**

ORIGIN: **Contractor initiated.**

REASON FOR CHANGE: **To comply with CAR regulation on percentage of spare fuses to be provided, and revision to CCP No. 75**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
Guar. Wt. Empty	Oper. Wt. Empty		
Negligible	Negligible	Negligible	Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring: _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 75A

Title: Fuses, Increase in Spares of

Origin: Contractor initiated

Reason for Change: To comply with CAR regulation on percentage of
spare fuses to be provided, and revision to CCP No. 75

Description of Change:

Page 72, Paragraph 3.16.7.1.2 - FUSES:

Revise first sentence on top of page to read as follows:

"Fuses of same rating exceeding 12 or more per airplane shall
be provided with a minimum of 12 fuses or a minimum of 50 percent
(whichever is greater) spares."

Effect on Weight Empty:	Negligible
Effect on Balance:	Negligible
Effect on Performance:	None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,129 Dtd ---

CHANGE NO: 74

MODEL: (880) 22-2

TITLE: Skydrol Hydraulic Fluid, Use of

ORIGIN: TWA requested, Reference TWA Letter 880-232 dated 23 July 1957, and Contractor proposed for Delta.

REASON FOR CHANGE:
To utilize a hydraulic fluid of a less flammable characteristic.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+204 lb

+204 lb

+180,140

lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 74

Page 1 of 2

Title: Skydrol Hydraulic Fluid, Use of

Origin: TWA requested, Reference: TWA Letter 880-232 dated 23 July 1957, and Contractor proposed for Delta.

Reason for Change: To utilize a hydraulic fluid of a less flammable characteristic.

Description of Change:

Page 16, Paragraph 3.2.4.1 - DETAIL STRUCTURAL FINISH:

Add the following subparagraph:

"h. Surfaces, equipment and components likely to be exposed to the hydraulic fluid specified in paragraph 3.15.1.2 shall be suitably protected against the action of this fluid."

Page 63, Paragraph 3.15.1.2 - FLUID:

Revise paragraph as follows:

"The hydraulic systems shall be designed to function with a hydraulic fluid conforming to "Skydrol 500"."

Paragraph 3.15.1.3 - PACKING AND SEALS:

Revise paragraph as follows:

"All packing, seals, gaskets and cups, in the hydraulic systems, shall be of materials suitable for use with the specified hydraulic fluid and shall, in general, be Teflon, AN Types or equivalent."

Paragraph 3.15.1.4 - LINES:

Add the following to the end of the paragraph:

"Drip pans or shrouds shall be installed in the nose wheel area, and in the aft fuselage area aft of the pressure bulkhead, as required, to contain the fluid during repair of the hydraulic system."

Page 68, Paragraph 3.16.5.5 - WIRE PROTECTION:

Add the following sentence to the end of the paragraph:

"Any wiring likely to be exposed to the hydraulic fluid specified in paragraph 3.15.1.2 shall have suitable resistance to such fluid."

Page 79, Paragraph 3.16.10.7 - PLUGS AND RECEPTACLES:

Add the following sentence to the end of paragraph:

"Plugs and receptacles likely to be exposed to the hydraulic fluid specified in paragraph 3.15.1.2 shall be fabricated of material resistant to the action of this fluid."

Effect on Weight Empty:	+ 204 pounds
Effect on Balance:	+ 180,140 inch-pounds
Effect on Performance:	None

Lab. Change 74-A.

(Cancelled)

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,125 Dtd _____

CHANGE NO: 73

MODEL: (880) 22-2

TITLE: **Electronic Panel, Change of**

ORIGIN: **Reference: Delta Letter File 142, dated 12 July 1957**

REASON FOR CHANGE: **Customer request for a panel which incorporates a Tacan facility switch and an odometer indicator.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

Negligible

Negligible

Negligible Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Delta Air Lines Inc.
Change No. 73

Title: Electronic Panel, Change of

Origin: Reference: Delta Letter File 142, dated 12 July 1957

Reason for Change: Customer request for a panel which incorporates a Tacan facility switch and an odometer indicator.

Description of Change:

Page 91, Paragraph 3.17.1.1 - CONTROL PANELS:

Change the second item in Description list as follows:

From: Two VHF/VOR Control Panels

To: Two VHF Comm/Nav. Control Panels

Page A6, APPENDIX I-C, ELECTRONIC EQUIPMENT:

Change first item under CONTROL PANELS as follows:

<u>From:</u>	2 VHF/VOR Control Panel	Convair	P/N to be supplied
--------------	-------------------------	---------	--------------------

<u>To:</u>	2 VHF/ Comm/Nav. Control Panel	Gables	G510V
------------	--------------------------------	--------	-------

Effect on Weight Empty:	Negligible
Effect on Balance:	Negligible
Effect on Performance:	None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,130 Dtd _____

CHANGE NO: 72

MODEL: (880) 22-2

TITLE: Teleflex Controls in Pods and Pylons, Use of

ORIGIN: Contractor initiated.

REASON FOR CHANGE: Administrative specification change.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 72

Title: Teleflex Controls in Pods and Pylons, Use of

Origin: Contractor initiated.

Reason for Change: Administrative specification change.

Description of Change:

Page 56, Paragraph 3.12.11.2 - GENERAL CONTROLS:

Delete the first sentence and add the following item to list of propulsion system controls:

"Fuel shut-off control"

Page 56, Paragraph 3.12.11.2.1 - ENGINE CONTROLS:

Change paragraph title as follows:

From: ENGINE CONTROLS

To: ENGINE POWER CONTROLS

Page 57, Paragraph 3.12.11.2.1 - Power control lever.

Delete the first two sentences from top of page and substitute the following:

"Push-pull rods and cranks from pedestal to compartment below cockpit floor, closed cable system to pylon and push-pull cable (Teleflex type) to engine control. Provisions shall be made to prevent the power control from creeping in flight."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-G03

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,110 Dtd 19 July 1957

CHANGE NO: 71

MODEL: (880) 22-2

TITLE: Landing Gear Pin Warning Lights, Installation of

ORIGIN: Customer Request, Delta Letter File 142, dated 15 July 1957

REASON FOR CHANGE: To install warning lights, to indicate when landing gear safety pins are in place.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+6.0 lb

+6.0 lb

+3535

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Delta Air Lines Inc.
Change No. 71

Title: Landin Gear Pin Warning Lights, Installation of

Origin: Customer Request, Delta Letter File 142, dated 15 July 1957

Reason for Change: To install warning lights which would indicate when landing gear safety pins are in place.

Description of Change:

Page 33, Paragraph 3.8.1.4 - LANDING GEAR SAFETY PINS:

Add the following after the first sentence:

"Landing gear safety pin indicator lights shall be installed as specified in par. 3.16.11.1.1".

Page 80

Add the following new paragraph:

"3.16.11.1.1 LANDING GEAR PIN INDICATOR LIGHTS: An individual landing gear pin indicator light shall be provided in the flight engineers panel for each of the main and nose landing gear and shall indicate when the landing gear safety pin has not been removed."

Effect on Weight Empty: +6.0 pounds
Effect on Balance: +3535 inch-pounds
Effect on Performance: None

Lat. Change No. 70

(Rejected)

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,121 Dtd ---

CHANGE NO: 69

MODEL: (880) 22-

TITLE: **Main and Nose Landing Gear Wheel and Tire Size, Change of**

ORIGIN: **Contractor Initiated.**

REASON FOR CHANGE: **To make specification language compatible with the only main and nose landing gear wheel and tire sizes available which will meet airplane requirements.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch l.b.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 69

Page 1 of 2

Title: Main and Nose Landing Gear Wheel and Tire Size, Change of

Origin: Contractor Initiated.

Reason for Change: To make specification language compatible with the only main and nose landing gear wheel and tire sizes available which will meet airplane requirements.

Description of Change:

Page 34, Paragraph 3.8.2.2 - WHEELS, BRAKES, AND BRAKE CONTROL SYSTEMS:

Delete the first sentence and substitute the following:

"The wheels and brakes for the main landing wheels shall meet Type VII, 39 x 13 Tire and Rim Association requirements."

Page 35, Paragraph 3.8.2.3 - TIRES:

Delete the first sentence and substitute the following:

"The tubeless tires for the main landing wheels shall be Type VII, 39 x 13 tires."

Page 36, Paragraph 3.8.4.2 - WHEEL AND BRAKES:

Delete the first sentence and substitute the following:

"The wheels for the nose landing gear shall meet Type VII, 29 x 7.7 Tire and Rim Association requirements."

Page 37, Paragraph 3.8.4.3 - TIRES:

Delete the first sentence and substitute the following:

"The tubeless tires for the nose landing gear shall be Type VII, 29 x 7.7 tires."

CONVAIR: SD

Delta Air Lines Inc.
Change No. 69

Page 2 of 2

Page All, APPENDIX I-C, LANDING GEAR EQUIPMENT:

Change fourth item in Description list as follows:

From: Main Wheel Tires (12.50 x 16) Type III

To: Main Wheel Tires (39 x 13) Type VII

Change seventh item in Description list as follows:

From: Nose Wheel Tires (7.50 x 14) Type III

To: Nose Wheel Tires (29 x 7.7) Type VII

Effect on Weight Empty: 0
Effect on Balance: None
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,120 Dtd _____

CHANGE NO: 68

MODEL: (880) 22-

TITLE: **Cockpit Temperature Bulb and Indicator, Removal of**

ORIGIN: TWA Request, Reference: TWA Letter No. 880-160 dated 28 March 1957 and Contractor Proposed for Delta

REASON FOR CHANGE:

To remove instrument which is considered nonessential in the cockpit area.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-1.8 lb

-1.8 lb

-472

Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Delta Air Lines Inc.
Change No. 68

Title: Cockpit Temperature Bulb and Indicator, Removal of

Origin: TWA Request, Reference: TWA Letter No. 880-160 dated 28 March 1957, and Contractor Proposed for Delta.

Reason for Change: To remove instrument which is considered nonessential in the cockpit area.

Description of Change:

Page 59, Paragraph 3.14.1.5 - INSTRUMENTS AND NAVIGATION EQUIPMENT:

Delete: The thirty-third line from instrument list as follows:

"(One cockpit temperature indicator)"

Page A7, APPENDIX I-C - INSTRUMENTS AND RELATED EQUIPMENT

Delete: The tenth and eleventh lines from the equipment list as follows:

- 1 Cockpit Temperature Indicator
- 1 Cockpit Temperature Bulb

Effect on Weight Empty: -1.8 pounds

Effect on Balance: -472 inch-pounds

Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,122 Dtd ---

CHANGE NO: 67

MODEL: (880) 22-2

TITLE: **Nose Wheel Well Signal Horn, Deletion of**

ORIGIN: **TWA Requested, Reference: TWA Letter No. 880-106 dated 28 March 1957 on Mock-Up Review of 25 - 27 February 1957, and Contractor proposed for Delta.**

REASON FOR CHANGE:

The signal horn is not considered to be a requirement in the interphone system.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-1.2 lb

-1.2 lb

-285 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 67

Title: Nose Wheel Well Signal Horn, Deletion of

Origin: TWA Requested, Reference: TWA Letter No. 880-106 dated 28 March 1957 on Mock-Up Review of 25 - 27 February 1957, and Contractor proposed for Delta.

Reason for Change: The signal horn is not considered to be a requirement in the interphone system.

Description of Change:

Page 99, Paragraph 3.17.2.3.5 - SERVICE INTERPHONE:

Delete first sentence starting on top of page:

"(A horn, connected to a momentary call switch installed in the cockpit area, shall be provided in the nose wheel well area.)"

Effect on Weight Empty: -1.2 pounds
Effect on Balance: -285 inch-pounds
Effect on Performance: None

Del. Charge - no. 66

(Rejected)

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: Revised 8 November 1957
CUSTOMER: Delta Air Lines Inc. MCL 10,123 Dtd 9 August 1957
CHANGE NO: 65A MODEL: (880) 22-2

TITLE: **Horizontal and Vertical Stabilizer Leading Edges and Stabilizer Assembly; Specification, and Splice Design, Change of**

ORIGIN: **Contractor initiated**

REASON FOR CHANGE: 1. To clarify intent of Specification as regards horizontal and vertical stabilizer leading edges. 2. To change the stabilizer splice design from a bolted side splice to a combination of internal tension splices and external shear splices 3. Rev. to CCP No. 65

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-12.7 lbs

-12.7 lbs

-19,387

Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 15 July 1957

CUSTOMER: Delta Air Lines, Inc.

MCL 10,102 Dtd _____

CHANGE NO: 53

MODEL: (880) 22- 2

TITLE: Rear Lavatories, Single Service Connection, Installation of		
ORIGIN: TWA comments on airplane inspection mock-up of 25-27 February 1957 and Contractor proposed for Delta.		
REASON FOR CHANGE: To accomplish ground service flushing of aft lavatories through a single connection.		
<div style="display: flex; justify-content: space-between;"><div>EFFECT ON WEIGHT *</div><div>EFFECT ON BALANCE *</div></div>		
Guar. Wt. Empty + 3.1 lb	Oper. Wt. Empty + 3.1 lb	+ 4145 Inch Lb.
EFFECT ON GUARANTEED PERFORMANCE: * None		
* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes: <div style="text-align: right; margin-top: 10px;">Engineering Approval</div>		
LATEST DATE OF ACCEPTANCE:		AIRPLANES AFFECTED:
SPECIAL PROVISIONS:		EFFECT ON PRICE PER AIRPLANE: Recurring: _____ Non-Recurring: _____ Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 53
15 July 1957

Title: Rear Lavatories, Single Service Connection, Installation of

Origin: TWA comments on airplane inspection mock-up of 25-27 February 1957, and Contractor proposed for Delta

Reason for Change: To accomplish ground service flushing of aft lavatories through a single connection.

Description of Change:

Page 107, Paragraph 3.19.2.2 - LAVATORIES:

Add following after fourth sentence, ending on fourteenth line:

"A pressure box and access door shall be provided in the fuselage under the aft lavatories to the right of airplane centerline. Both aft lavatory drains shall be connected through a Y-fitting to a single connection to the pressure box for ground lavatory flushing. A flush line shall be provided to accomplish the ground flushing operation. Pressure caps shall be provided for the drain and flush lines."

Effect on Weight Empty:	+3.1 pounds
Effect on Balance:	+4145 inch-pounds
Effect on Performance:	None

Dal - Charge No. 52

(Cancelled)

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,077 Dtd 27 March 1958

CHANGE NO: 51A

MODEL: (880) 22-2

TITLE: Performance Data, Revision to

ORIGIN: Convair initiated.

REASON FOR CHANGE: To furnish Customer with the latest available performance data, and revision to CCP No. 51.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

As noted.

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 51A

Title: Performance Data, Revision to

Origin: Convair initiated.

Reason for Change: To furnish Customer with the latest available performance data, and revision to CCP No. 51.

Description of Change:

Page 10, Paragraph 3.1.1.1, GUARANTEED PERFORMANCE:

Revise the next to last item on page as follows:

From: "Maximum allowable take-off weight at sea level in accordance with CAR 4b climb requirements (but this shall not preclude operation at 174,025 lb at start of the take-off run) 1b 173,500"

To: "Maximum allowable take-off weight at sea level in accordance with SR-442 climb requirements (but this shall not preclude operation at 179,025 lb at the start of the take-off run) 1b 178,500"

Page 11, Paragraph 3.1.1.1, GUARANTEED PERFORMANCE:

Revise the last sentence in the paragraph to read as follows:

"With an ambient temperature of 90 degrees.F. at sea level and a starting take-off weight of 179,025 lb, the airplane shall be able to take-off with an engine failure at V_1 and climb out, raising the gear and retracting the flaps, to an altitude of 1,000 feet and thereafter accelerate without loss of altitude to best angle of climb speed, using maximum climb thrust, within a total of 5 minutes of take-off thrust."

Page 12, Paragraph 3.1.2.2 LOADING SUMMARY:

Under "Weight - Less Fuel and OIL", change the first item as follows:

From: "Fuel 66,594 lb"

To: "Fuel 70,000 lb"

Delete the following item from paragraph:

"Maximum Gross Weight - (Take-Off) 173,500 lb"

Effect on Weight Empty: 0

Effect on Balance: 0

Effect on Performance: As noted.

Lat. Change No. 51

(Rejected)

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 24 June 1957
CUSTOMER: Delta Airlines, Inc. MCL 10033 Dtd 4-3-57
CHANGE NO: 50 MODEL: (880) 22-2

TITLE: **CJ-805-3 Engine Installation (G.E.)**

ORIGIN: **General Electric Proposed**

REASON FOR CHANGE: **To improve take off performance.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
Guar. Wt. Empty	Oper. Wt. Empty		
None	None	None	Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

See attached sheet

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

Title: CJ-805-3 Engine Installation

Origin: General Electric Proposed

Reason for Change: To improve take-off performance.

Description of Change:

Page 8, Paragraph 3.1.1 - PERFORMANCE:

Revise paragraph to read as follows:

"The performance computations for the airplane are based on the Standard Configuration described herein, with doors and windows closed, with the General Electric CJ-805-3 engine, and in addition are based on the following:

- A. An NACA standard atmosphere except as noted.
- B. Except for take-off data, the engine data shown in General Electric curves A-4012162-502B (4-9-56), -503B (4-9-56), -504B (undated), -505B (3-3-56), -506B (3-3-56), -507B (3-3-56), -508B (3-3-56) and -510B (3-16-56) with the cruise specific-fuel-consumptions reduced by 4-1/2 percent as guaranteed by General Electric.
- C. The take-off data as shown in General Electric Engine Specification No. E-723, dated 15 March 1957.
- D. A JP-4 fuel (MIL-F-5624C) having an average net heating value of 18,650 Btu/lb.
- E. With engine data corrected for operation of cabin pressurization and air conditioning units and for installation losses excluding the effects of engine sound suppressors."

Page 8, Paragraph 3.1.1.1 - THE FOLLOWING PERFORMANCE OF THE AIRPLANE IS GUARANTEED:

Revise paragraph to read as follows:

"It shall not be acceptable to demonstrate guaranteed performance with thrust, other than take-off, in excess of engine specification values existing at the date of revision one (1) of this specification or take-off thrust in excess of those shown in General Electric Engine Specification No. E-723 dated 15 March 1957, with all thrusts reduced for installation losses excluding the effects of engine sound suppressors. Demonstrations for all guaranteed performance shall be made under existing atmospheric conditions using NACA atmospheric tables plus humidity corrections

established by CAA. All field lengths given are for level, dry, hard surface runways and zero wind conditions. Convair need not demonstrate to Buyer those performance guarantees which are included in the CAA certified data, but copies of the CAA report showing attainment of such performances shall be furnished to the Buyer."

Revise the last three items on Page 9, and first item on Page 10 to read as follows:

Take-off distance at sea level
over 50-ft obstacle in accordance
with CAR 4b (1.2 V_{S1} used for
take-off speed) with a weight of
140,000 lb ft. $\pm 5\%$ 4,630

Take-off distance at sea level
over 50-ft obstacle in accordance
with CAR 4b (1.2 V_{S1} used for
take-off speed) with a weight of
173,500 lb at lift off in standard
air ft. ± 800 7,610

Take-off distance at sea level
on 90°F day over 31 ft obstacle
in accordance with CAR 4b (1.2 V_{S1}
used for take-off speed) with
weight of 173,500 lb at lift off ft. ± 850 8,350

Take-off distance at sea level
over 31-ft obstacle in accordance
with CAR 4b (1.2 V_{S1} used for
take-off speed) on a 90 degree F
day with weight of 160,000 lb ft. $\pm 5\%$ 6,820

Page 7, Paragraph 2.1 - APPLICABLE SPECIFICATIONS:

Last line of page, replace "General Electric Engine Specification No. E-709" with "General Electric Engine Specification No. E-723 dated 15 March 1957".

Page A-1 - APPENDIX I-G - POWER PLANT EQUIPMENT:

Change first item to read:

4 Engines, complete

Manufacturer

G.E.-CJ-805-3

Part or Spec
Number

(E-723 3/15/57)

Effect on Weight Empty:

None

Effect on Balance:

None

Effect on Performance:

Four items as noted

Title: Horizontal and Vertical Stabilizer Leading Edges and Stabilizer Assembly; Specification, and Splice Design, Change of

Origin: Contractor initiated

Reason for Change: 1. To clarify intent of Specification as regards horizontal and vertical stabilizer leading edges.
2. To change the stabilizer splice design from a bolted side splice to a combination of internal tension splices and external shear splices. 3. Revision to CCP No. 65

Description of Change:

Page 23, Paragraph 3.6.2 - STABILIZER:

Delete third sentence and substitute the following:

"The stabilizer shall be assembled by means of a centerline splice; consisting of a bolted tension type splice at internal members, and external shear type splices at upper and lower surfaces. The shear splices shall utilize Huck lock bolts".

Page 125, Paragraph 3.23.1 - EQUIPMENT INTERCHANGEABILITY:

In subparagraph "1. Interchangeable Parts", add the following items to list:

"Horizontal Stabilizer, Leading Edge
Vertical Stabilizer, Leading Edge"
*Horizontal Stabilizer, Complete Assembly
Sealing Blades, Stabilizer to Fuselage"

Add the following foot note to page 125:

"* Complete stabilizer assembly interchangeable airplane to airplane by disassembly of halves at the airplane centerline for removal from the airplane. Reassemble on installation by installing internal tension bolts on an "interchangeability without alteration" basis and installing 1/64 - inch larger diameter Huck lock bolts in shear connections".

CONVAIR: S. D.

Delta Air Lines Inc.
Change No. 65A
Revised 8 November 1957

Page 2 of 2

Page 126, Paragraph 3.23.1 - EQUIPMENT INTERCHANGEABILITY:

In subparagraph "2. Interchangeability Without Alterations"

Delete second item on page "Horizontal Stabilizer, Complete Assembly".

In subparagraph "5. Replaceable Parts"

Delete the following fourth and fifth items from list:

"Horizontal Stabilizer Leading Edge
Vertical Stabilizer, Leading Edge"

Effect on Weight Empty: -12.7 Lbs.
Effect on Balance: -19,387 Inch-Lbs.
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6-1217 (2/14/58)

SPEC NO: ZD-22-003 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL _____ Dtd _____
CHANGE NO: 64A MODEL: (880) 22- 2

TITLE: Warning System, Change to

ORIGIN: Convair initiated and Delta request for revision by Letter File 142, dated 15 May 1958.

REASON FOR CHANGE: To clarify the intent of the Specification, and revision to CCP No. 64.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 64A

Title: Warning System, Change to

Origin: Convair initiated and Delta request for revision by Letter
File 142, dated 15 May 1958.

Reason for Change: To clarify the intent of the Specification, and
revision to CCP No. 64.

Description of Change:

Page 41, Paragraph 3.10.2.1 LIFT AND DRAG INCREASING DEVICE SYSTEMS:

Add the following to the end of the paragraph:

"An electrical interconnect between flaps, landing gear scissors switch and throttles shall be provided. This interconnect will sound the warning horn when any two throttles are advanced to take-off position and the flaps and elevator trim are not in the take-off regime."

Page 80, Paragraph 3.16.11.1 LANDING GEAR WARNING HORN:

Add the following to the end of the paragraph:

"An electrical interconnect between flaps, landing gear scissors switch and throttles shall be provided. This interconnect will sound the warning horn when any two throttles are advanced to take-off position and the flaps and elevator trim are not in the take-off regime."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,112 Dtd - - -

CHANGE NO: 63

MODEL: (880) 22-2

TITLE: Engine Oil Pressure Gages, Change of

ORIGIN: TWA requested, Reference: Item 6a, page 3 of TWA Comments of Mock-Up review dated 25, 27 February 1957, and Contractor proposed for Delta.

REASON FOR CHANGE:

To provide four single oil pressure indicators in lieu of two dual oil pressure indicators.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

Negligible

Negligible

Negligible Inch l.b.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 63

Title: Engine Oil Pressure Gages, Change of

Origin: TWA requested, Reference: Item 6a, page 3 of TWA Comments of Mock-Up review dated 25, 27 February 1957, and Contractor proposed for Delta.

Reason for Change: To provide four single oil pressure indicators in lieu of two dual oil pressure indicators.

Description of Change:

Page 59, Paragraph 3.14.1.4 - FLIGHT ENGINEER'S INSTRUMENTS:

Change first item in instrument list as follows:

From: Four oil pressure gages (2 dual)

To: Four indicators, engine oil pressure

Page A1, APPENDIX I-C, POWER PLANT EQUIPMENT:

Change first item under "OIL SYSTEM EQUIPMENT":

From: "2 Oil Pressure Gages (Dual)

To: 4 Indicators, Engine Oil Pressure"

Effect on Weight Empty: Negligible

Effect on Balance: Negligible

Effect on Performance: None

The following not to appear in Specification language:

"Manufacturer's name and/or part number will be provided in APPENDIX I-C on Customer acceptance of this Change No. 63, as soon as available."

Cal. Changed no. 62

(Rejected)

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: Revised 25 Sept. 1957
MCL 10,104 Dtd 19 July 1957

CUSTOMER: Delta Air Lines Inc.

CHANGE NO: 61A

MODEL: (880) 22-2

TITLE: Door Open Warning Indicator, Installation of

ORIGIN: Contractor Initiated

REASON FOR CHANGE: To provide increased indication of open doors and to show which specific door is not fully closed.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+4.0 lb

+4.0 lb

+2935 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc
Change No. 61A

Title: Door Open Warning Indicator, Installation of

Origin: Contractor Initiated

Reason for Change: To provide increased indication of open doors and
to show which specific door is not fully closed.

Description of Change:

Page 80, Add the following new paragraph:

"3.16.11.2.2' DOOR OPEN WARNING INDICATORS: An individual door open warning indicator light shall be provided at the flight engineer's station above the flight engineer's panel adjacent to the landing gear pin warning lights for each of the two main entrance doors, the two service doors, the two cargo doors, the electronics and hydraulics doors and the aft bulkhead pressure door. The warning system shall indicate each specific door which is not fully closed."

Page 89, Paragraph 3.16.17.1 EMERGENCY POWER:

Add to bottom of "Warning List": "Door Open Warning Indicators"

Effect on Weight Empty: +4.0 pounds
Effect on Balance: +2935 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPKC NO: ZD-22-003 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL 10,144 Dtd _____
CHANGE NO: 60A MODEL: (880) 22-2

TITLE: **Cabin Compressor Low Oil Pressure Warning Light, Deletion of**

ORIGIN: **Contractor initiated.**

REASON FOR CHANGE: **Compressor was redesigned to delete oil pump,
therefore a low oil pressure warning light is not
required.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty	Oper. Wt. Empty	
-1.0 lb	-1.0 lb	-400 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:
CCP No. 60

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 60A

Title: Cabin Compressor Low Oil Pressure Warning Light, Deletion of

Origin: Contractor initiated.

Reason for Change: Compressor was redesigned to delete oil pump,
therefore a low oil pressure warning light is not
required.

Description of Change:

Page 59, Paragraph 3.14.1.4 FLIGHT ENGINEER'S INSTRUMENTS:

Delete the following item from the instrument list:

"2 Warning light, cabin compressor low oil pressure."

Page A7, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Delete the following item from the Description list:

" Warning light, cabin compressor low oil pressure."

Effect on Weight Empty: -1.0 pound
Effect on Balance: -400 inch-pound
Effect on Performance: None

Lab. Charge No 59
(Rejected)

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 24 July 1957

CUSTOMER: Delta Air Lines Inc.

MCL 10,105 Dtd ---

CHANGE NO: 58

MODEL: (880) 22-2

TITLE: C-10 Compass System, Changes to

ORIGIN: Reference: Delta Letter, File 142, dated 17 April 1957

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-3.9 lb

-3.9 lb

-1100

Inch l.b.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 58
24 July 1957

Title: C-10 Compass System, Changes to

Origin: Reference: Delta Letter, File 142, dated 17 April 1957

Reason for Change: Customer requested.

Description of Change:

Page A8, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Change "REMOTE COMPASS SYSTEM" Equipment List to read as follows:

<u>Quan.</u> <u>Reqd.</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Part or</u> <u>Spec. Number</u>
	REMOTE COMPASS SYSTEM		
	<u>Sperry C-10 Compass System</u>		
2	Flux Valve	Sperry	620359
2	Compass Indicator	Sperry	- - - *
2	Directional Gyro	Sperry	613260-2
2	Rack Assembly	Sperry	614937-10
1	Servo Amplifier	Sperry	618379
1	Slaving Amplifier	Sperry	621107

Note: (Not a part of specification language.)

* Part number called out in COP No. 28A, revised 18 July 1957.

Effect on Weight Empty: -3.9 pounds
Effect on Balance: -1100 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 19 July 1957

CUSTOMER: Delta Air Lines Inc.

MCL 10,106 Dtd ---

CHANGE NO: 57

MODEL: (880) 22-2

TITLE: Exterior Lighting, Changes to

ORIGIN: TWA comments on airplane mock-up inspection of 25-27 February 1957, and Contractor proposed for Delta.

REASON FOR CHANGE: To make exterior lighting common between DAL and TWA configurations.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty
Negligible

Oper. Wt. Empty
Negligible

Negligible Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Delta Air Lines Inc.
Change No. 57
19 July 1957
Page 1 of 2

Title: Exterior Lighting, Changes to

Origin: TWA comments on airplane mock-up inspection of 25-27 February 1957, and Contractor proposed for Delta.

Reason for Change: To make exterior lighting common between DAL and TWA configurations.

Description of Change:

Page 74, Paragraph 3.16.8.1.1 - FUSELAGE AND POSITION:

Change paragraph title to "POSITION LIGHTS", and delete second and third sentences.

Paragraph 3.16.8.1.1.1 - CONTROL:

Delete paragraph and substitute following:

"Switches shall be installed in the system as required to control the forward and rearward position lights."

Paragraph 3.16.8.1.3 - AUXILIARY LANDING LIGHT:

Delete paragraph and substitute following:

"Two 600-watt white auxiliary landing lights shall be installed; one on each side of the wing leading edge stub section. The lights shall be provided with a positioning adjustment not controllable in flight. The lights shall also be usable as taxi lights."

Paragraph 3.16.8.1.3.1 - CONTROL:

Revise paragraph to read as follows:

"A switch shall be installed on the forward center overhead switch panel to control the auxiliary landing lights."

Page 75, Paragraph 3.16.8.1.6 - SIGNAL LIGHT:

Delete paragraph and substitute following:

"The two 600-watt auxiliary landing lights, described in Paragraph 3.16.8.1.3, shall be combination lights so arranged as to also serve as signal lights."

Paragraph 3.16.8.1.6.1 - CONTROL:

Delete entire paragraph.

CONVAIR: SD

Delta Air Lines Inc.
Change No. 57
19 July 1957
Page 2 of 2

Page 85, Paragraph 3.16.17 - ESSENTIAL POWER:

Under "Lighting", delete following items:

" 9 Fuselage Lights
10 Position Light Flasher".

Page A2, APPENDIX I-C, ELECTRICAL EQUIPMENT:

Under "EXTERIOR LIGHTS", change following item:

From: 1 Signal Light

To: 2 Auxiliary Landing Lights (Signal Lights)

Delete eighth item: "1 Taxi Light".

Effect on Weight Empty: Negligible
Effect on Balance: Negligible
Effect on Performance: None

Lat. Change No. 56

(Rejected)

Lab. Charge No. 55

(Cancelled)

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

Revised

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,091 Dtd 19 June 1957

CHANGE NO: 54A

MODEL: (880) 22-2

TITLE: Selective Calling System, Relocation of

ORIGIN: Reference: TWA Letter 880-155 dated 20 May 1957, and Contractor proposed for Delta

REASON FOR CHANGE:
To facilitate inspection and maintenance of unit by relocation to a more accessible area.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+3.5 lb

+3.5 lb

+1,050 Inch l.b.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 54A

Title: Selective Calling System, Relocation of

Origin: Reference: TWA Letter 880-155 dated 20 May 1957, and
Contractor proposed for Delta

Reason for Change: To facilitate inspection and maintenance of unit by
relocation to a more accessible area.

Description of Change:

Page 100, Paragraph 3.17.2.4 - AIRBORNE SELECTIVE CALLING:

Add the following to the end of the paragraph:

"The provisions shall be made in the forward left hand passenger
coat compartment and arranged to provide accessibility to equipment
from the flight deck."

Effect on Weight Empty: +3.5 pounds
Effect on Balance: +1050 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 1 July 1957
CUSTOMER: Delta Air Lines Inc. MCL 10,093 Dtd 21 June 1957
CHANGE NO: 49 MODEL: (880) 22-2

TITLE: ATC Transponder, 51R4 Receiver and Remler P.A. Amplifier; Installation and Type Changes of		
ORIGIN: Customer requested, Reference: Meeting of 20 June 1957 between Convair and Delta representatives.		
REASON FOR CHANGE: Customer request to change ATC Transponder from installation to provisions, and changes in type of VHF Navigation Receivers and P.A. Amplifier.		
EFFECT ON WEIGHT * EFFECT ON BALANCE *		
Guar. Wt. Empty - 37.9 lb	Oper. Wt. Empty - 37.9 lb	 -9148 Inch Lb.
EFFECT ON GUARANTEED PERFORMANCE: * <div style="text-align: center; padding: 5px;">None</div>		
* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes: <div style="text-align: right; padding: 5px;">Engineering Approval</div>		
LATEST DATE OF ACCEPTANCE:		AIRPLANES AFFECTED:
SPECIAL PROVISIONS:		EFFECT ON PRICE PER AIRPLANE: Recurring: _____ Non-Recurring: _____ Total: _____

ACCEPTED: _____ CONVAIR, A Div. of Gen. Dyn. Corp.
BY: _____ BY: _____
DATE: _____ Chief of Contract Administration
Commercial

CONVAIR: SD

Delta Air Lines Inc.
Change No. 49
1 July 1957
Page 1 of 2

Title: ATC Transponder, 51R4 Receiver and Remler P.A. Amplifier;
Installation and Type Changes of

Origin: Customer requested, Reference: Meeting of 20 June 1957 be-
tween Convair and Delta
representatives.

Reason for Change: Customer request to change ATC Transponder from
installation to provisions for, and changes in
type of VHF Navigation Receivers and P.A. Amplifier.

Description of Change:

Page 90, Paragraph 3.17.1 - EQUIPMENT:

Delete fifth item in Description List, "One ATC Beacon Trans-
ponder System".

Under "Complete provisions for the following systems shall be made",

Change: "Second ATC Transponder Beacon System" to "Dual ATC
Transponder Beacon System".

Page 98, Paragraph 3.17.2.3.5 - SERVICE INTERPHONE:

To end of first sentence add "and H.F. tuner location".

Page A4, APPENDIX I-C, ELECTRONIC EQUIPMENT:

Under "HF NAVIGATION SYSTEM"

<u>Change:</u>	2	Receivers	Collins	51R4
<u>To:</u>	2	Receivers	Collins	51X2
<u>Add:</u>	2	VOR/LOC, Instrumen- tation Unit	Collins	344B-1

Page A5, APPENDIX I-C, ELECTRONIC EQUIPMENT:

Delete following item:

"ATC TRANSPONDER BEACON

1 ATC Transponder Beacon ARINC SPEC 532A

CONVAIR: SD

Delta Air Lines Inc.
Change No. 49
1 July 1957
Page 2 of 2

Page A5, APPENDIX I-C, ELECTRONIC EQUIPMENT (Continued)

Under PASSENGER ENTERTAINMENT (PA) SYSTEM

<u>Change:</u>	1	Amplifier	Remler	A550
<u>To:</u>	1	Amplifier	Collins	346D-1

Effect on Weight Empty: -37.9 pounds
Effect on Balance: -9148 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 29 May 1957
CUSTOMER: Delta Air Lines, Inc. MCL 10045 Dtd _____
CHANGE NO: 48 MODEL: (880) 22-2

TITLE: **Selection of Electronic Equipment**

ORIGIN: **Minutes of Meeting between Convair and Delta, dated
16 January 1957**

REASON FOR CHANGE: **Customer requested.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+ 0.2 lb

+ 0.2 lb

+ 987 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Delta Air Lines, Inc.
Change No. 48
29 May 1957
Page 1 of 5

Title: Selection of Electronic Equipment.

Origin: Minutes of Meeting between Convair and Delta, dated 16 January 1957.

Reason for Change: Customer requested.

Description of Change:

Page 88, Paragraph 3.16.17.1 - EMERGENCY POWER:

Under "Power Packs", in item "2", add "Phase" before "Instrument", in item "3" add "Phase" before "Instrument", and in item "4" add "Phase" before "Lighting".

Page 90, Paragraph 3.17.1 - EQUIPMENT:

Under "Space provisions for the following systems shall be made", delete: "Proximity Warning System"
"Terrain Warning System"
"Dual Tacan System"

Add to list: "Tacan Azimuth Accessory Units (2-1/4 ATR Spaces)"

Page 91, Paragraph 3.17.1.1 - CONTROL PANELS:

In Description list, change second item to read:
"Two VHF/VHF NAV (ILS-DMET) Control Panels"

Change seventh item to read: "One Dual Selective Call System Control Panel"

Delete from Description list: "One Marker Beacon Hi-Low Control Switch"

Change the sixth item to read: "One Dual ATC Transponder Control Panel with Marker Beacon Hi-Low Switch"

Add: "Four Audio Selector Control Panels (one each side console, one flight engineer and one electronic compartment)"

Delete following from paragraph: "Provisions for the following panels shall be made:
Radar Identification Control
Second ATC Beacon Transponder Control"

Page 93, Paragraph 3.17.1.3.4 - SPARE TERMINALS AND SPARE WIRES:

In second line, change "space" to "spare".

Page 95, Paragraph 3.17.1.6.3 - CABLE:

Change paragraph title to "CABLES", and in third line delete "over-head", and in last line on page change "panel" to "panels".

Page 96, Paragraph 3.17.1.7.1 - D-C POWER CONTROLS:

In fourth line, delete "terrain warning".

Page 97, Paragraph 3.17.2.1.1 - ANTENNA:

Delete last sentence and substitute following:

"A low drag external antenna shall also be installed on top of the airplane with co-axial cable routed to permit future connection to either receiver."

Paragraph 3.17.2.1.2 - CONTROLS:

Delete second sentence and substitute following:

"Wiring for SCS and DCS operation shall be provided in accordance with ARINC Specification 520A, Attachment II."

Page 98, Paragraph 3.17.2.3.5 - SERVICE INTERPHONE:

Revise paragraph to read as follows:

"A service interphone system shall be installed with jack boxes at the following stations: Nose Wheel Well

Each Engine Nacelle

Main Gear Well

External Ground Power Plug

Fuselage Tail Cone

Hydraulic Compartment

Air Conditioning Compartment

Page 98, Paragraph 3.17.2.3.5 - SERVICE INTERPHONE: (Continued)

Handsets shall be installed at the following stations:

Both Buffet Areas
Flight Deck, at aft end of pedestal

These handsets shall also be connected and used with the Public Address System (par. 3.17.2.3.7). A single stroke chime and call light shall be installed at the flight deck and each buffet area for use with these handsets, and shall be activated by momentary contact call switches labeled "Stewardess" and "Cockpit". A horn connected to a momentary call switch in the cockpit area shall be installed in the nose wheel well area. An additional momentary contact call switch and signal light shall be installed at each buffet area for inter-buffet signals. The chime and light installed at the flight deck also shall be activated from the nose wheel well, ground power plug, tail cone and main gear area. The interphone amplifier shall be installed in the radio rack. The service interphone system shall be energized at all times when the DC power system is on. As a guide, Convair Report No. 22-03400 shall be used to define the design and operating characteristics of the service interphone system."

Page 99, Paragraph 3.17.2.3.6 - SMOKE MASK MICROPHONE:

In fifth line, change "inboard" to "outboard".

Paragraph 3.17.2.3.7 - PUBLIC ADDRESS SYSTEM:

In sixth line, delete "neon type".

Page 100, add following new paragraph:

"Par. 3.17.2.4.1 - AIRBORNE SELECTIVE CALLING CONTROL: A SEL-CAL panel shall be installed in the radio control panel. Audio to the SEL-CAL unit shall be selected by the selector switches on the panel. An indicator light for each channel shall be installed on the panel. Audio from #1 and #2 H.F. and #1 and #2 VHF communications may be selected by either SEL-CAL Channel. A single chime shall be installed and connected to each SEL-CAL intermittent channel. Provisions for "Reset" shall be accomplished on the SEL-CAL panel."

Page 100, Paragraph 3.17.3.2 - MARKER BEACON RECEIVER:

Revise third sentence to read: "Control for the marker beacon shall be located in the ATC control panel."

Page 101, Paragraph 3.17.3.5 - DISTANCE MEASURING EQUIPMENT:

Change paragraph title to "DISTANCE MEASURING EQUIPMENT TACAN", and in second line change "DME" to "DMET".

Page 101, Paragraph 3.17.3.5.1 - INDICATORS:

Revise first sentence to read: "Space shall be provided on the pilot's and on the co-pilot's instrument panels for a 3-inch dual counter DMET indicator."

Paragraph 3.17.3.5.2 - ANTENNAS:

Delete paragraph and substitute following:

"Two DMET antennas shall be installed, one on top of fuselage and one on bottom of fuselage."

Page 102, Paragraph 3.17.4.1 - WEATHER PENETRATION AIRBORNE RADAR:

Fifth line, change "34" to "30".

Seventh line, change "anti-iced" to "deiced".

Paragraph 3.17.4.2 - TERRAIN WARNING TRANSCEIVER:

Delete paragraph.

Paragraph 3.17.4.3 - IDENTIFICATION RADAR:

Delete paragraph.

Paragraph 3.17.4.4.1 - CONTROL:

Delete paragraph and substitute following:

"One Dual ATC Transponder Beacon Control shall be installed in the radio control panel."

Figure 3.14.-1 - PILOT'S & CO-PILOT'S INSTRUMENT PANEL:

Revise figure to reflect change in paragraph 3.17.3.5.1.

¹⁴⁻²
Figure 3.17-1 - PILOT'S & CO-PILOT'S PEDESTAL:

Revise figure to reflect change in paragraph 3.17.3.2.

¹⁴⁻⁵
Figure 3.17-2 - PITOT STATIC SYSTEM SCHEMATIC:

Renumber this figure and change location to Instrument Section of Specification.

Page A5 - APPENDIX I-C - ELECTRONIC EQUIPMENT:

Add following new item:

"DISTANCE MEASURING EQUIPMENT TACAN"

2 Antenna

Convair P/N to be supplied.

Page A5 - APPENDIX I-C - WEATHER RADAR:

Fourth item, "Antenna", change "34" to "30", and change part number to "537F-3".

Page A6 - APPENDIX I-C - CONTROL PANELS:

Change "ATC Transponder Beacon Panel" to "Dual ATC Transponder Beacon/Marker.

Mfr.: GABLES, P/N G-565."

Effect on Weight Empty: -0.2 lb
Effect on Balance: +987 inch-lb
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6 1211 (2/14/57)

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,040 Dtd Revised 5-26-58

CHANGE NO: 47A

MODEL: (880) 22-2

TITLE: Deletion of Access Door in Aft Pressure Bulkhead

ORIGIN: Delta requested at DELTA-CONVAIR Meeting of 19 May 1958.

REASON FOR CHANGE: To eliminate a possible source of cabin pressure leakage.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-6.0 lbs

-6.0 lbs

-8,184

Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL REMARKS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 47A

Title: Deletion of Access Door in Aft Pressure Bulkhead.

Origin: Delta requested at DELTA-CONVAIR Meeting of 19 May 1958.

Reason for Change: To eliminate a possible source of cabin pressure leakage.

Description of Change:

Page 80, Paragraph 3.16.11.2.1 DOOR OPEN WARNING INDICATORS:

Delete the last six words of the first sentence, and repunctuate sentence: "(and the aft bulkhead pressure door)".

Effect on Weight Empty: -6.0 pounds
Effect on Balance: -8,184 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 30 April 1957
CUSTOMER: Delta Air Lines, Inc. MCL 10040 Dtd 19 April 1957
CHANGE NO: 46 MODEL: (880) 22-2

TITLE: Installation of External Access Door in Tail Cone			
ORIGIN: TWA requested, Ref.: TWA Letter 880-98 of 11 March 1957, and Contractor proposed for Delta			
REASON FOR CHANGE: To improve access to the tail cone area.			
EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
Guar. Wt. Empty	Oper. Wt. Empty		
+ 19.7 lb	+ 19.7 lb	+27,601	Inch Lb.
EFFECT ON GUARANTEED PERFORMANCE: *			
None			
* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal			
Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:			
Engineering Approval			
LATEST DATE OF ACCEPTANCE:		AIRPLANES AFFECTED:	
SPECIAL PROVISIONS:		EFFECT ON PRICE PER AIRPLANE:	
		Recurring: _____	
		Non-Recurring _____	
		Total: _____	

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

30 April 1957
Change No. 46

Title: Installation of External Access Door in Tail Cone

Origin: TWA requested, Ref.: TWA Letter 880-98 of 11 March 1957, and Contractor proposed for Delta

Reason for Change: To improve access to the tail cone area.

Description of Change:

Page 30 - Add new paragraph as follows:

3.7.1.5.5 TAIL CONE ACCESS DOOR: An access door, approximately 17.0" wide by 19.0", shall be installed on the bottom fuselage centerline aft of the rear pressure bulkhead for access into the unpressurized tail cone area for ground maintenance and inspection.

Effect on Weight Empty: +19.7 pounds
Effect on Balance: +27,601 inch-pounds
Effect on Performance: None

Lab. Charge No. 45

Cancelled - retained for record Only.
see other folder for Current.

Chg. No. 45

10-1-56

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 18 April 1957
CUSTOMER: Delta Air Lines, Inc. MCL 10,014 Dtd 4 April 1957
CHANGE NO: 44 MODEL: (880) 22-2

TITLE: Convert from basic Sperry C4b Compass to the Sperry complete C-10 Compass system.		
ORIGIN: Customer Initiated: Ref.: (1) Convair-Delta Minutes, dated 28 December 1956, Page 4. (2) Convair-Delta Minutes, dated 16, 17 January 1957. (3) Convair-Delta Telecon, 4 March 1957. (4) Ltr. J. Nycum-A. Savard, dated 3 April 1957.		
REASON FOR CHANGE: To comply with customer request.		
<div style="display: flex; justify-content: space-between;"><div>EFFECT ON WEIGHT *</div><div>EFFECT ON BALANCE *</div></div>		
Guar. Wt. Empty + 1.5	Oper. Wt. Empty + 1.5	+ 324 Inch Lb.
EFFECT ON GUARANTEED PERFORMANCE: * None		
* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes: <div style="text-align: right; margin-top: 10px;">Engineering Approval</div>		
LATEST DATE OF ACCEPTANCE:		AIRPLANES AFFECTED:
SPECIAL PROVISIONS:		EFFECT ON PRICE PER AIRPLANE: Recurring: _____ Non-Recurring: _____ Total: _____

ACCEPTED: _____ CONVAIR, A Div. of Gen. Dyn. Corp.
BY: _____ BY: _____
DATE: _____ Chief of Contract Administration
Commercial

CONVAIR: SD

18 April 1957
Change No. 44

Title: Convert from Basic Sperry C4b Compass to the Sperry Complete C-10 Compass System

Origin: Customer Initiated: Ref.:

- (1) Convair-Delta Minutes, dated 28 December 1956, Page 4
- (2) Convair-Delta Minutes, dated 16, 17 January 1957
- (3) Convair-Delta Telecon of 4 March 1957
- (4) Letter J. Nyeum-A. Savard, dated 3 April 1957

Reason for Change: To comply with Customer request.

Description of Change:

Page A8, Appendix 1-C

Change: "REMOTE COMPASS SYSTEM" Equipment List to read as follows:

Quan. Reqd	Description	Manufacturer	Part or Spec. Number
---------------	-------------	--------------	-------------------------

REMOTE COMPASS SYSTEM

Sperry C-10 Compass System

2	Flux Valve		
2	Compass Indicator	Sperry C-6	
2	Compass Control		
2	Directional Gyro		
2	Rack Assembly		
	1 Power Supply		
	1 Servo Amplifier		
	1 Slaving Amplifier		

Effect on Weight: +1.5
Effect on Balance: +324 inch-lb
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 17 April 1957
CUSTOMER: Delta Air Lines MCL 10,031 Dtd 26 March 1957
CHANGE NO: 43 MODEL: (880) 22-2

TITLE: **Passenger Oxygen Outlets - Change to Six Abreast**

ORIGIN: **Customer requested - Ref.: TWA Ltr. 880-102, dated 20
March 1957**

REASON FOR CHANGE: **To provide oxygen outlet facilities for children in
arms (tourist and mixed version seating).**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+7.0

+7.0

+5838

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

17 April 1957
Change No. 43

Title: Passenger Oxygen Outlets - Change to Six Abreast

Origin: Customer requested - Ref.: TWA Letter 880-102, dated 20
March 1957

Reason for Change: To provide oxygen outlet facilities for children in
arms (tourist and mixed version seating).

Description of Change:

Page 114, Paragraph 3.19.5.4 - INDIVIDUAL OUTLETS
Add to end of paragraph:

Provisions for one additional mask shall be made for each seat row
(3 masks for each seat row on both sides of the airplane) to provide
for emergency oxygen for children in arms.

Figure 3.19-14 - Revise to show additional oxygen outlets.

Effect on Weight:	+7.0
Effect on Balance:	+5838 inch-lb
Effect on Performance:	None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 15 April 1957
CUSTOMER: Delta Air Lines, Inc. MCL 10034 Dtd _____
CHANGE NO: 42 MODEL: (880) 22-2

TITLE: Main Landing Gear, Heat Treat; Revision of		
ORIGIN: Contractor Initiated		
REASON FOR CHANGE: For purpose of weight control.		
EFFECT ON WEIGHT * EFFECT ON BALANCE *		
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch Lb.
EFFECT ON GUARANTEED PERFORMANCE: *		
None		
* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal		
Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:		
Engineering Approval		
LATEST DATE OF ACCEPTANCE: AIRPLANES AFFECTED:		
SPECIAL PROVISIONS: EFFECT ON PRICE PER AIRPLANE:		
Recurring: _____		
Non-Recurring _____		
Total: _____		

ACCEPTED: _____ CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____ BY: _____

DATE: _____ Chief of Contract Administration
Commercial

CONVAIR: SD

15 April 1957
Change No. 42

Title: Main Landing Gear, Heat Treat; Revision of

Origin: Contractor Initiated

Reason for Change: For purpose of weight control.

Description of Change:

Page 38, Paragraph 3.8.4.8 - MATERIAL PROPERTIES
Delete paragraph and substitute following:

The main landing gear shock strut outer cylinder and piston, and the wheel truck beam may be made from SAE 4340 steel, heat treated to 260,000 - 280,000 psi. The tensile properties of the steels used in all other gear components shall not exceed 240,000 psi (max) unless approved by Buyer.

Effect on Weight Empty:	None
Effect on Balance:	None
Effect on Performance:	None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 16 April 1957
CUSTOMER: Delta Air Lines, Inc. MCL 10037 Dtd _____
CHANGE NO: 41 MODEL: (880) 22-2

TITLE: Cargo Doors; Increase in Size of

ORIGIN: Requested by Hughes Tool Company in their Mock-up Comments,
and Contractor proposed for Delta.

REASON FOR CHANGE: To provide access for entry of larger articles.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
-16.0	-16.0	-12,848 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Change No. 40, dated 15 April 1957

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring: _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

Title: Cargo Doors; Increase in Size of

Origin: Requested by Hughes Tool Company in their Mock-up comments and Contractor proposed for Delta.

Reason for Change: To provide access for entry of larger articles.

Description of Change:

Page 30, Paragraph 3.7.1.5.4 - Cargo Doors

Change, in third sentence: 30 inches by 34 inches, to 39 inches by 34 inches.

Enclosure (A) Five (5) copies Contractor Proposal 1 - Increase Opening to Receive 27 x 32 x 89 Container.

Figure 1-2 - Inboard Profile and Plan View:
Revise to show correct cargo area.

Effect on Weight Empty: +16.0
Effect on Balance: +12,848 inch-lb
Effect on Performance: None

Title: Cargo Doors; Increase in Size of

Origin: Requested by Hughes Tool Company in their Mock-up comments and Contractor proposed for Delta.

Reason for Change: To provide access for entry of larger articles.

Description of Change:

Page 30, Paragraph 3.7.1.5.4 - Cargo Doors

Change, in third sentence: 30 inches by 34 inches, to 39 inches by 34 inches.

Enclosure (A) Five (5) copies Contractor Proposal 1 - Increase Opening to Receive 27 x 32 x 89 Container.

Figure 1-2 - Inboard Profile and Plan View:
Revise to show correct cargo area.

Effect on Weight Empty: +16.0
Effect on Balance: +12,848 inch-lb
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 12 April 1957
CUSTOMER: Delta Air Lines Inc. MCL 10,036 Dtd _____
CHANGE NO: 40 MODEL: (880) 22-2

TITLE: Delete one aft baggage compartment door, relocate remaining door.

ORIGIN: Contractor Initiated

REASON FOR CHANGE: To increase usable cargo volume and decrease weight.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
-59.6	-59.6	-64,400 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	Recurring: _____
	Non-Recurring: _____
	Total: _____

ACCEPTED: CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____ BY: _____
DATE: _____ Chief of Contract Administration
Commercial

Title: Delete One Aft Baggage Compartment Door, and Relocate Remaining Door.

Origin: Contractor Initiated.

Reason for Change: To increase usable cargo volume and decrease weight.

Description of Change:

Page 30, paragraph 3.7.1.5.4 - CARGO DOORS

Revise first two sentences to read as follows:

"Two inward opening doors shall be provided for access to the cargo areas below the floor. One door shall be provided for each cargo area. The doors shall be approximately centrally located, fore and aft with respect to the end bulkheads."

Figure 1-1 - General Arrangement Drawing:

Revise to show one centrally located compartment cargo door.

Figure 1-2 - Inboard Profile and Plan View Drawing:

Revise to show correct cargo storage area.

Effect Weight Empty:	-59.6 lb
Effect on Balance:	-64,400 inch-lb
Effect on Performance:	None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 15 April 1957
CUSTOMER: DELTA AIR LINES MCL 10,029 Dtd 28 Mar. 1957
CHANGE NO: 39 MODEL: (880) 22-2

TITLE: ANTI-COLLISION LIGHT - UPPER FUSELAGE INSTALLATION		
ORIGIN: Requested by TWA: Ref. TWA Ltr. 880-79, dated 12 February 1957 and Contractor proposed for Delta.		
REASON FOR CHANGE: To relocate the upper anti-collision light to a position on the fuselage that will permit access for maintenance. Ref. R.F.C. 3.16.D4		
EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty + 4.0	Oper. Wt. Empty + 4.0	+3103 Inch Lb.
EFFECT ON GUARANTEED PERFORMANCE: *		
None		
* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal		
Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:		
Engineering Approval		
LATEST DATE OF ACCEPTANCE:		AIRPLANES AFFECTED:
SPECIAL PROVISIONS:		EFFECT ON PRICE PER AIRPLANE:
		Recurring: _____
		Non-Recurring: _____
		Total: _____

ACCEPTED: _____ CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____ BY: _____
Chief of Contract Administration
DATE: _____ Commercial

Title: Anti-Collision Lights - Upper Fuselage Installation

Origin: Requested by TWA: Ref.: TWA Ltr. 880-79 dated 12 February 1957 and Contractor proposed for Delta.

Reason for Change: To relocate the upper anti-collision light to a position on the fuselage that will permit access for maintenance. Ref. R.F.C. 3.16.D4.

Description of Change:

Page 74, Paragraph 3.16.8.1.4 - ANTI-COLLISION LIGHTS

Change paragraph to read as follows:

The airplane shall be equipped with two anti-collision lights; one providing light for the upper hemisphere and the other for the lower hemisphere. The upper light shall be accessible from within the passenger compartment. Drainage provisions shall be made to assure fluid drainage as a result of accumulation of condensed moisture or other fluids which may become trapped. The lower light location shall not be adjacent to any fuel or hydraulic fuel vent or drain line.

Exhibit to Change: (Not to appear in specification language)

The upper light shall be removed from the fin tip and installed at the CL of the fuselage at a point approximately opposite the lower light. The light shall be accessible from within the passenger cabin area through a door in a pressure tight housing. A removable panel in the interior trim will be provided. Wiring shall be changed as required.

Effect on Weight:	Weight Empty: +4.0
Effect on Balance:	+ 3103 inch-lb.
Effect on Performance:	None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,069 dtd 23 May 1957

CHANGE NO: 38A

MODEL: (880) 22-2

TITLE: Cabin Interior, Modification of

ORIGIN: Customer Initiated, Reference: Letter of Agreement No. 21 to Purchase Agreement, dated 13 September 1956, Delta Letter File 142 dated 11 March 1957, and Interior Mock-Up of 11 June 1957.

REASON FOR CHANGE:

To furnish Customer with desired cabin interior, and revision to CCP No. 38.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+173.3 lbs

+173.3 lbs

+155,413

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

Title: Cabin Interior, Modification of

Origin: Customer Initiated, References: Letter of Agreement No. 21 to Purchase Agreement dated 13 September 1956, Delta Letter File 142 dated 11 March 1957 and Interior Mock-Up of 11 June 1957.

Reason for Change: To furnish Customer with desired cabin interior, and revision to CCP No. 38.

Description of Change:

Page 78, Paragraph 3.16 - ELECTRICAL SYSTEM:

Add following new paragraph under paragraph 3.16.8.6:

"3.16.8.7 SIDE WINDOW LIGHTING: Provisions shall be made at the cabin side windows for valance type fluorescent lighting, which shall include dimming features."

Page 107, Paragraph 3.19.2.3 - MISCELLANEOUS LAVATORY EQUIPMENT:

Change first item in equipment list to read:

"Three shatterproof mirrors (one mirror in forward lavatory and one each in aft lavatories)."

Page 111, Paragraph 3.19.3.3 - TRIM:

Add following new sentence to end of paragraph:

"Carpeting shall be provided on side walls of cabin interior extending approximately 10 inches up the walls."

Page 111, Paragraph 3.19.3.5 - CURTAINS:

Change the first sentence to read as follows:

"All passenger compartment windows shall be provided with glare control."

Delete the last sentence which reads as follows:

"Window curtains, wherever practicable, shall be interchangeable."

Page 111, Paragraph 3.19.3.6 - HAT RACKS:

Revise the paragraph to read as follows:

"Overhead hat racks shall be installed extending the full length of the passenger compartment except in the area of the stowage bins. They shall be sufficiently rigid to support passengers walking in the aisle in rough weather. The racks shall be designed for a stowage load of one pound per lineal inch and an additional load of 170 pounds applied at each third row of seats. Stowage bins, to break the continuity of the hat racks, shall be installed in four locations on each side of the aisle. A door, or doors, shall be provided for each bin."

Page A12, APPENDIX I-C, FURNISHINGS:

Change 21st and 22nd items in Description List to read:

From: "AR Lavatory Water Tanks"

To: " 3 Lavatory Drain Tanks"

From: "3 Wash Basin Mirrors"

To: "3 Lavatory Mirrors (Shatterproof)"

Figure 3.19-2 - AFT WATER SYSTEM SCHEMATIC

Figure 3.19-3 - LAVATORY TOILET WATER SCHEMATIC

Revise figures to show separate drain tank for each lavatory.

Effect on Weight Empty:	+173.3 pounds
Effect on Balance:	+155,413 inch-pounds
Effect on Performance:	None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 18 April 1957
CUSTOMER: Delta Air Lines, Inc. MCL 10,032 Dtd 22 March 1957
CHANGE NO: 37 MODEL: (880) 22-2

TITLE: **Air Conditioning - Description of Ground Connection Location**

ORIGIN: Customer Requested (TWA) Ref.: Review of Mock-up, Page 20,
Item 7, dated 12 March 1957

REASON FOR CHANGE: Relocate to reduce time required during engine starts
and reduce weight of system.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
Guar. Wt. Empty	Open. Wt. Empty		
-26.0	-26.0	-10,400	Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

18 April 1957
Change No. 37

Title: Air Conditioning - Description of Ground Connection Relocation

Origin: Customer Requested (TWA) Ref.: Review of Mock-up, Page 20,
Item 7, dated 12 March 1957

Reason for Change: Relocate to reduce time required during engine starts
and reduce weight of system.

Description of Change:

Page 120, Paragraph 3.20.1.12

Change sentence starting on 6th line of paragraph to read:

A ground test connection shall be located on the R.H. side
of fuselage near the front wing spar to permit ground pres-
sure testing of the high pressure dust system

Figure 3.20-1 Air Conditioning schematic to be revised to reflect
relocation of connection.

Effect on Weight:	-26
Effect on Balance:	-10,400 inch-lb
Effect on Performance:	None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 28 March 1957

CUSTOMER: Delta Airlines

MCL 10,008 Dtd 11 Mar. 1957

CHANGE NO: 36(A)

MODEL: (880) 22-2

TITLE: Oxygen System - Gaseous, 1800 PSI - Change to:

ORIGIN: Contractor Initiated

REASON FOR CHANGE: Contractor wishes to advise customer of an alternate proposal for the installation of a high pressure gaseous oxygen supply system in lieu of the presently designated liquid oxygen system.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+104.0

+104.0

+37,065

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

28 March 1957
Change No. 36(A)

TITLE: Oxygen System - Gaseous, 1800 PSI - Change to:

ORIGIN: Contractor Initiated:

REASON FOR CHANGE: Contractor wishes to advise customer of an alternate proposal for the installation of a high pressure gaseous oxygen supply system in lieu of the presently designated liquid oxygen system.

DESCRIPTION OF CHANGE:

Page 113 Paragraph 3.1.9.5.1 General:
First sentence

Change: "Liquid Oxygen Converter"
To: "High Pressure Gas"

Paragraph 3.1.9.5.2 Components:

Change to read as follows:

"System components shall be comprised of regulators, valves, pressure gages, metering orifice valve, tubing, mask assemblies and three (3) oxygen cylinders. Complete provisions for the fourth cylinder shall be made.

Page A-18 Appendix I-C Oxygen Equipment
Delete:

- 1 Build-up and vent valve
- 1 Oxygen Converter
- 1 Quantity Gage
- 1 Filler Valve

Add:

- 3 High Pressure Oxygen Cylinder (107 cu.ft each)
- 2 Pressure Gage
- 2 Pressure Reducer
- 2 Check Valve
- 1 Line Valve

Figure 3.19-4 dtd 7-26-56

Revised 3-14-57 showing high pressure gaseous Oxygen Supply System with a 3 bottle configuration and provisions for the fourth bottle.

Effect on weight: +104.0 lb

Effect on Balance: +37065 in.lb

Effect on Performance: None

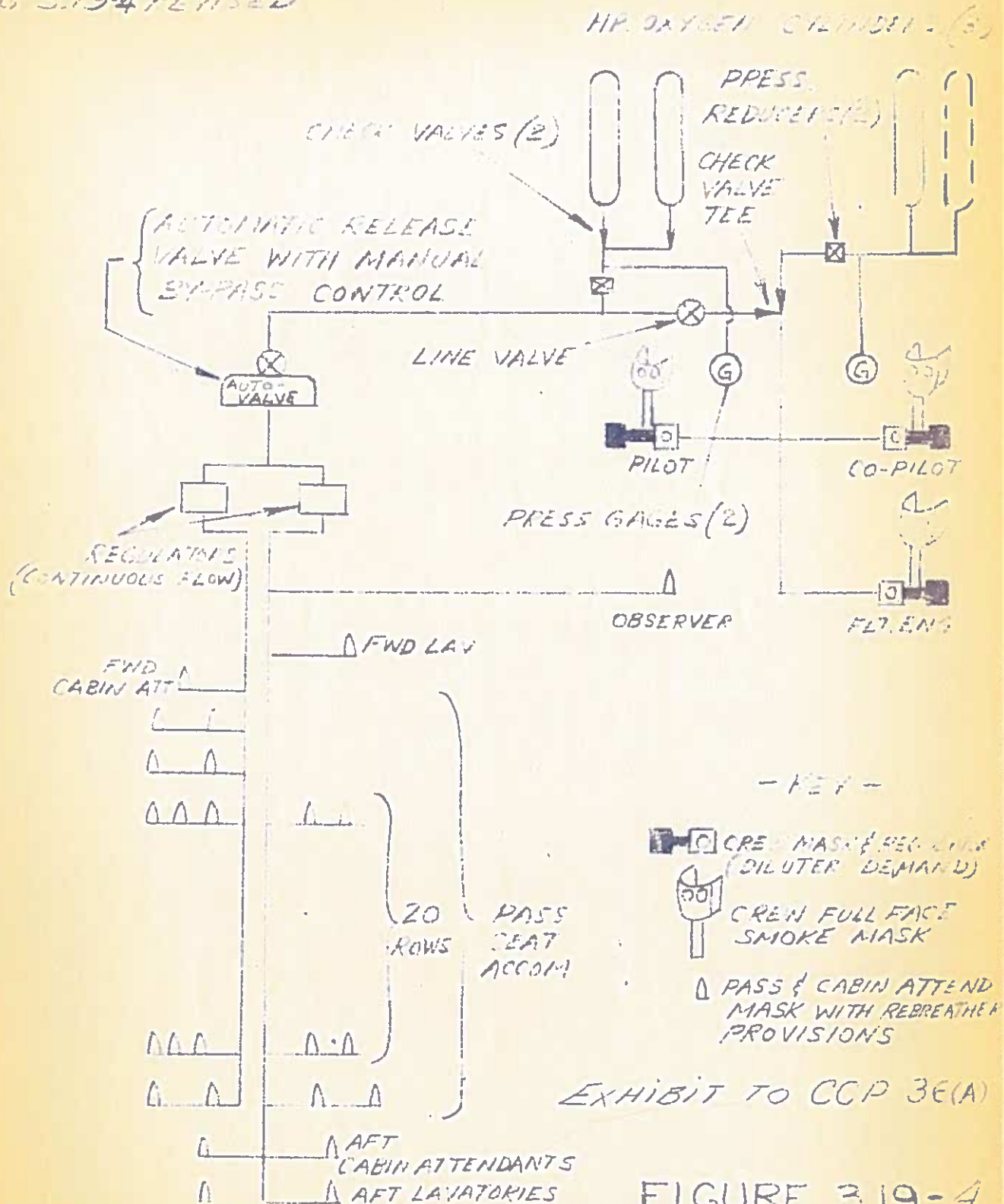
SPECN° ZD-22-OC3

MODEL 22

FIG 3.19-4 REVISED

FILE OPPOSITE FIG 3.19-4

DATE 3-14-57



MODEL 22 HIGH PRESS. OXYGEN GAS SYSTEM SCHEMATIC (FIG 3.19-4)

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10070-B Dtd ^{Revised} *4 October 1957

CHANGE NO: 35B

MODEL: (880) 22-2

TITLE: Buffets, Changes to

ORIGIN: Delta - Convair Buffet Meetings of 1 August and 6 August 1957
*Delta - Convair Buffet Meeting of 1 October 1957

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

Proposal 2 +256 lbs

Proposal 2 +256 lbs

Proposal 2 +238,895 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

PROPOSAL No. 2

Page 105, Paragraph 3.19.2.1 - BUFFETS:

Revise second and third sentences to read as follows:

"Each of the buffets shall consist of two units as shown on Figures 3.19-5, 3.19-6 and 3.19-7. The units shall be identified as No. 1, No. 2, No. 3 and No. 4; units 2 and 3 shall be alike for interchangeability. No. 1 unit shall accommodate nine tray carriers. No. 4 unit shall be located forward of No. 3 unit on R.H. side forward of rear service door facing aft, and shall accommodate ten tray carriers.

Delete last sentence from paragraph "(The buffet insert sizes shall)", and substitute the following:

"Solid overhead type doors shall be installed over ovens and tray carriers of units 1, 2 and 3. Hinged side stowing doors shall be provided in No. 4 unit as follows: (a) one pair for each lower two levels on aft side, (b) a single door for each of the three inboard tray carriers and (c) a single door for the upper aft tray carrier. All doors shall be designed to utilize easily replaceable commercial material and to sustain a 3g ultimate load from loaded ovens or tray carriers. The overhead doors over the ovens and tray carriers shall be designed to serve as auxiliary serving counters. All loaded ovens and tray carriers shall be retained in position by 12g ultimate load self-locking latches. Counter tops, side and back splash to be one piece replaceable "Formica" or equivalent."

Page 106, Paragraph 3.19.2.1.2 - BUFFET EQUIPMENT:

Add to end of first sentence "as required".

Revise second sentence to read as follows:

"The equipment and arrangement shall be as shown on Figures 3.19-5, 3.19-6, 3.19-6A and 3.19-7."

Delete equipment list and substitute the following:

	NO. OF ITEMS IN BUFFET UNIT			
	No. 1	No. 2	No. 3	No. 4
** Tray Carrier (6-meal capacity)	9	0	0	10
** Food Warming Oven (12-meal capacity)	0	5	5	0
* Non-Inflatable Escape Chute Stowage	0	1	1	0
Coffee Maker	0	1	1	0
Counter Top (Including Liquid Drain)	0	1	1	0
* 2-Gallon Liquid Container	1	2	2	2
Filters(In addition to coffee maker filter)	0	1	1	0
* Waste Container (Wet and Dry)	0	1	1	0
Cold Water Outlet	0	1	1	0
Water Cooler (1-qt capacity)	0	1	1	0
Switch Panel	0	1	1	0
Integral Counter Light	0	1	1	0
Hot Cups	0	1	1	0
* Drawers (4)	0	1	1	0
Hinged Serving Counters	0	2	2 prov	0
Miscellaneous Stowage	As available			
* Incorporates 12g Load Carrying Doors				
** Incorporates 3g Load Carrying Doors				

Add to bottom of Paragraph 3.19.2.1.2, under above equipment list:

"Refer to APPENDIX I-B for description of equipment to be furnished and installed by Customer after delivery of aircraft. All other items to be Contractor furnished Contractor installed equipment."

Add the following new page to specification:

APPENDIX I-B

FURNISHINGS

Equipment to be Furnished and Installed by Customer after Delivery of Aircraft.

Description

Tray Carriers (R.E.F. Model 815)	Mansfield Prod. Co.	#180-115
2-Gallon Liquid Containers	Mansfield Prod. Co.	#206-115
Food Warming Ovens	Helmco-Lacy	#STD-N-VT-115
Hot Cups		

Page A12, APPENDIX I-C, FURNISHINGS:

Change 24th item in Equipment List as follows:

From: 1 Buffet (4 units)

To: 2 Buffets (2 units each)

Add: 2 Coffee Makers (115V AC) Nordskog Co. 5045D

Figure: 3.19-8 FWD BUFFET, View Looking Fwd.

Delete above figure from specification.

Figures: 1-2 INBOARD PROFILE AND PLAN VIEW (See Exhibit "A")
1-3 ALTERNATE SEATING ARRANGEMENT

Revise figures as required to reflect above changes.

Enclosures: (A) Four (4) copies Figure 3.19-5 Revision C
(B) Four (4) copies Figure 3.19-6 Revision C
(C) Four (4) copies Figure 3.19-6A Revision A
(D) Four (4) copies Figure 3.19-7 Revision A, Alt. B

Replace present figures with Enclosures: (A), (B), (C) and (D).

Effect on Weight Empty: +256 pounds
Effect on Balance: +238,895 inch-pounds
Effect on Performance: None

The following not to appear in Specification language:

EXHIBIT "A"

I. Alternate "B" (Proposal No. 2)

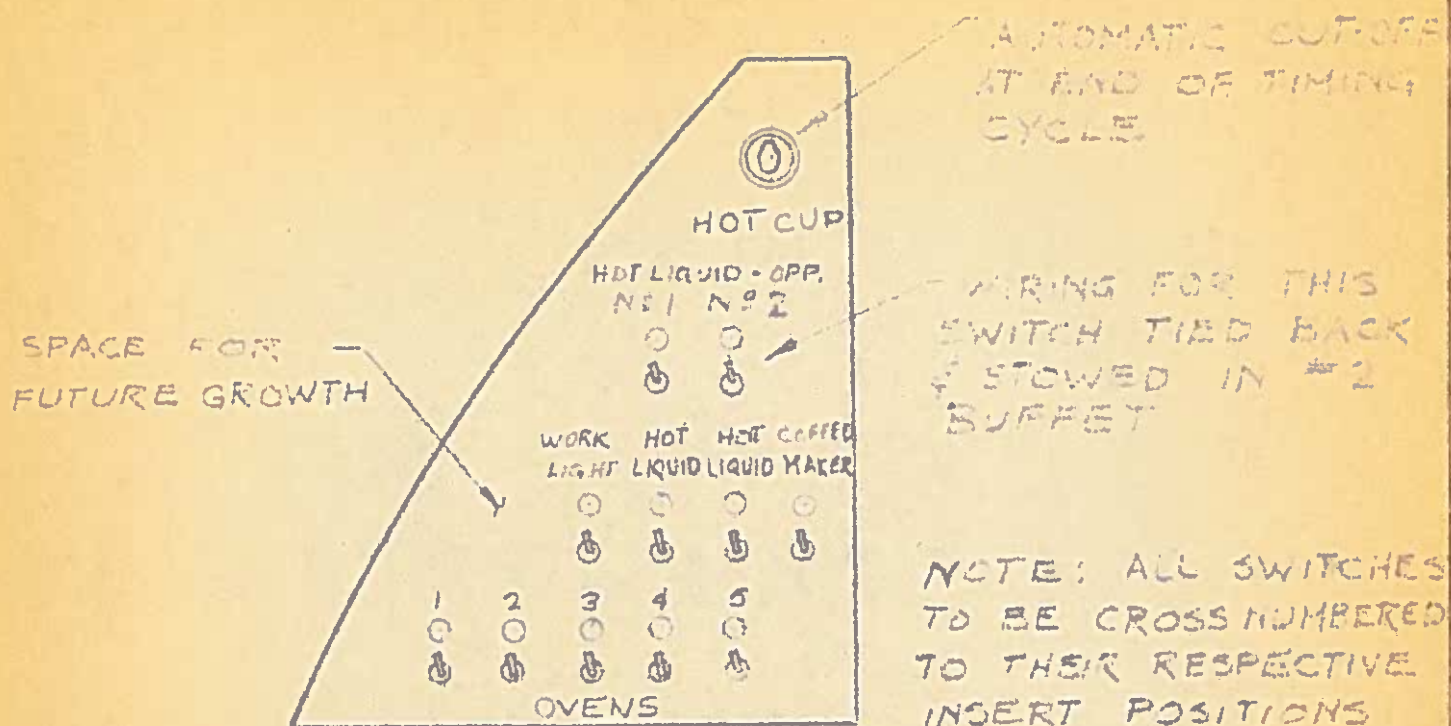
Figure 1-2 - Inboard Profile and Plan View and
Figure 1-3 - Alternate Seating Arrangement, will be revised in
accordance with this Change No. 35B as follows:

- (a) Aft left hand buffet replaced with coat rack.
- (b) Aft right hand double seat, partition and stewardess seat replaced with 37-1/2" deep buffet.
- (c) Aft left hand double seat replaced with movable coat divider.
- (d) Center cabin movable coat rack divider replaced with standard seats.
- (e) Aft right hand stewardess seat relocated to inboard face of aft left hand coat rack in item (a) above.
- (f) Width of forward right hand buffet increased to Buttock Line 4.0.
- (g) Width of pilot's door reduced to 21" to accommodate item (f).
- (h) The R.H. passenger windows, overhead baggage rack including all passenger conveniences such as air, call button, oxygen outlets, etc., and seat attach points will be retained for the future reinstallation of the two standard passenger seats and/or removable coat room divider in the area between sta. 122⁴ and sta. 1261.5.

II. Right hand movable coat rack will be provided as loose equipment.

III. Convair will use a total of 61⁴ pounds for Customer food service in Convair useful load calculations.

DELTA



SWITCH PANEL
BUFFET #2 & 3

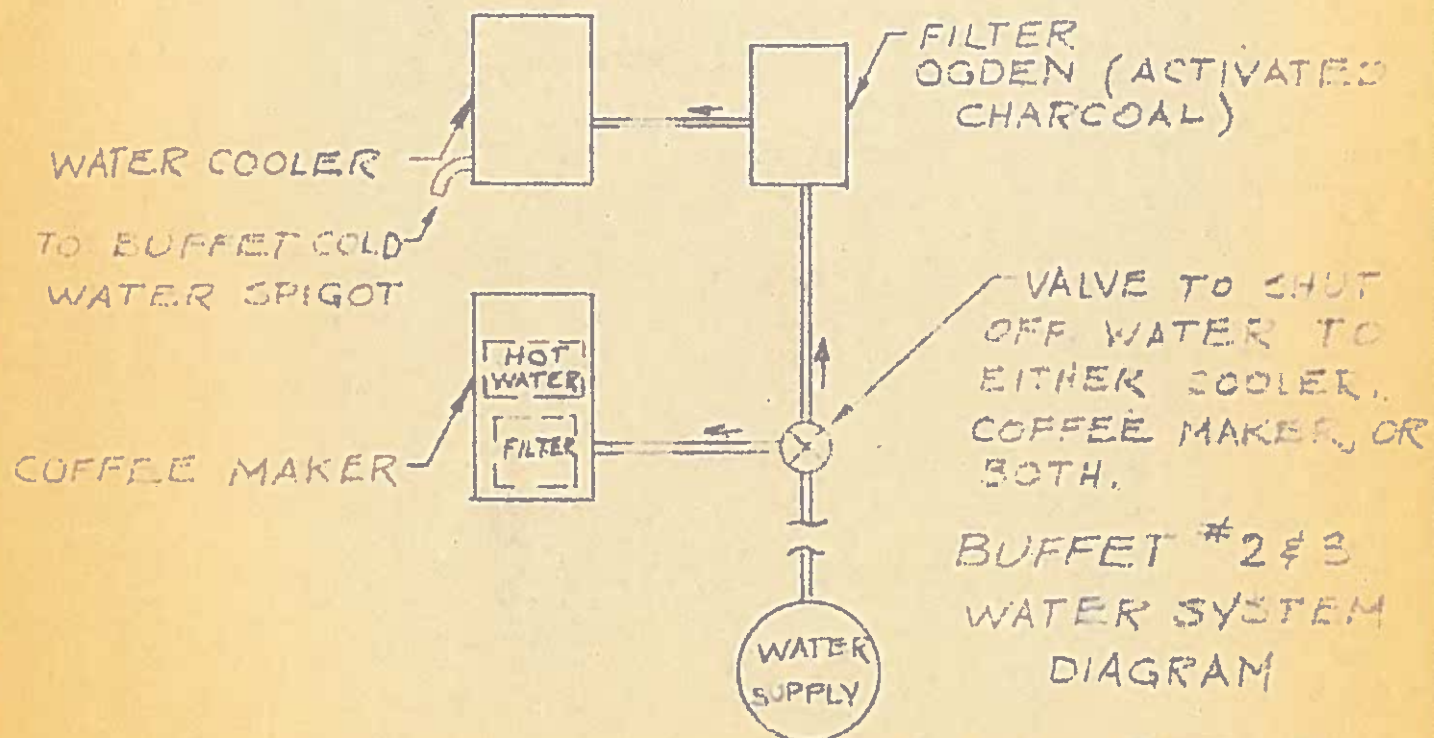


FIGURE 3.19-GA

ANALYSIS
PREPARED BY
CHECKED BY
REVISED BY

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO

PAGE
REPORT NO.
MODEL D.A.L.
DATE 10-2-57

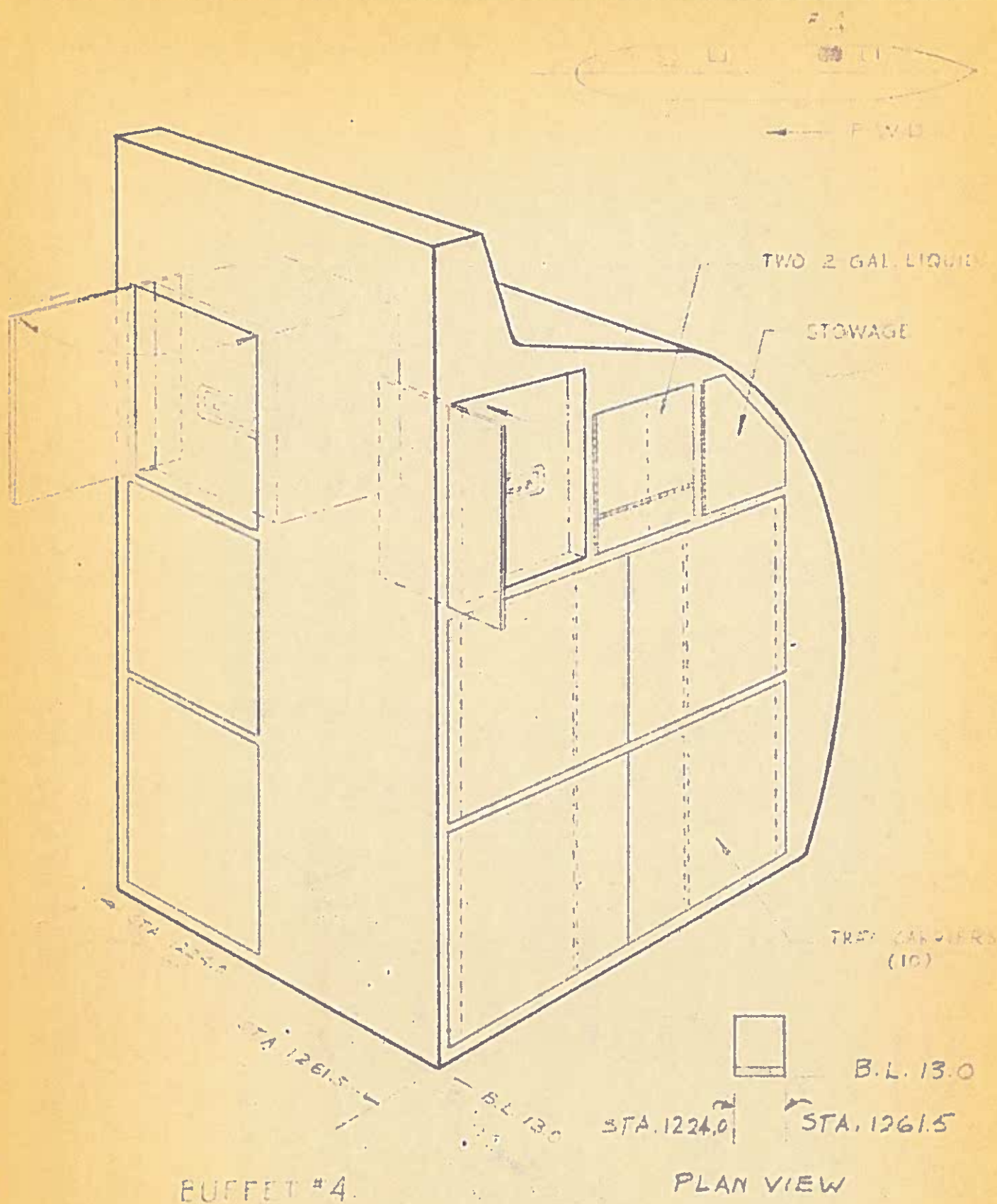
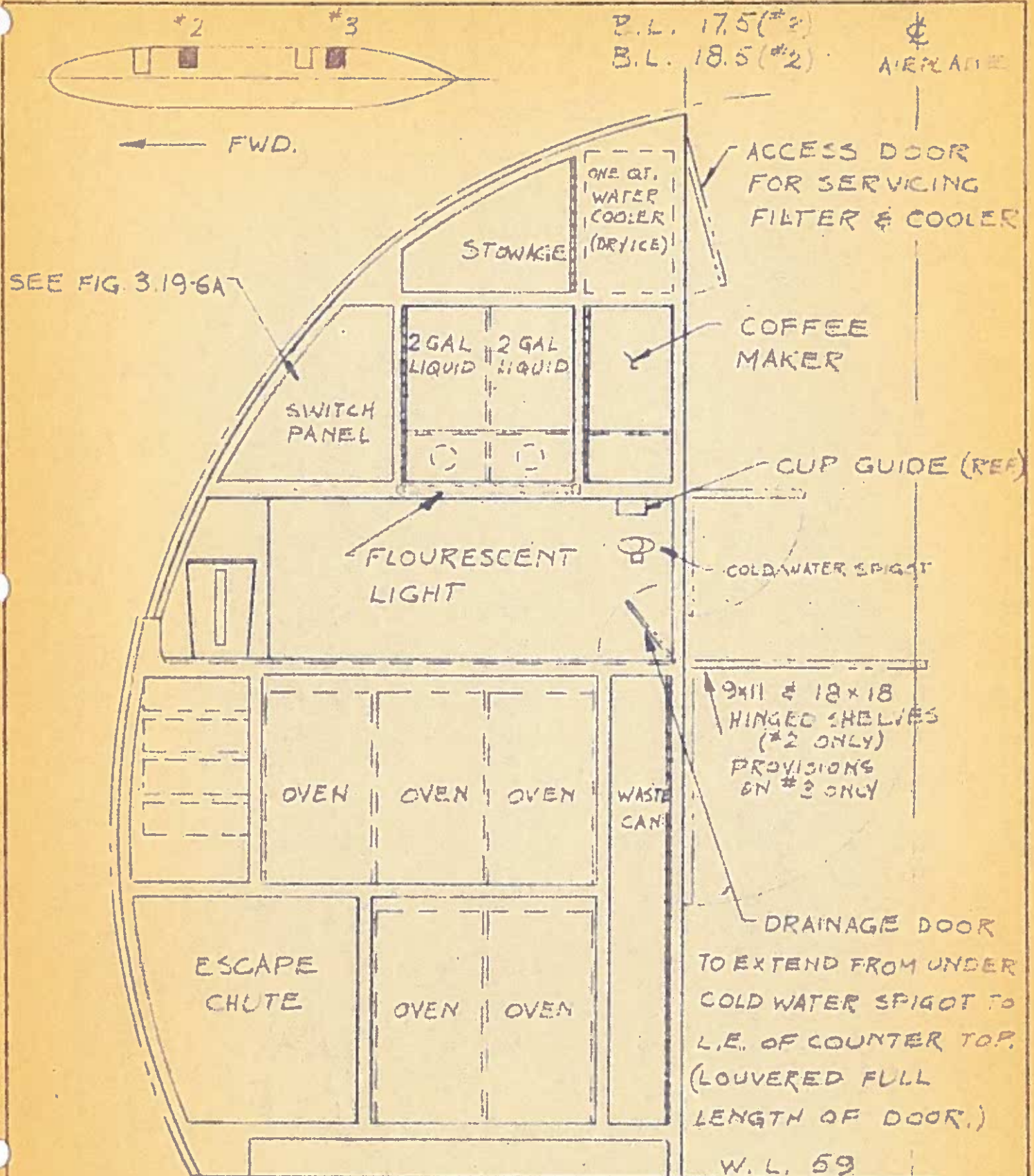


FIG 3.19-7 REV. A

ANALYSIS
PREPARED BY
CHECKED BY
REVISED BY

CONVAIR
A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO

PAGE
REPORT NO.
MODEL DAL.
DATE 12-4-57



BUFFET #2 & #3 EXCEPT AS NOTED

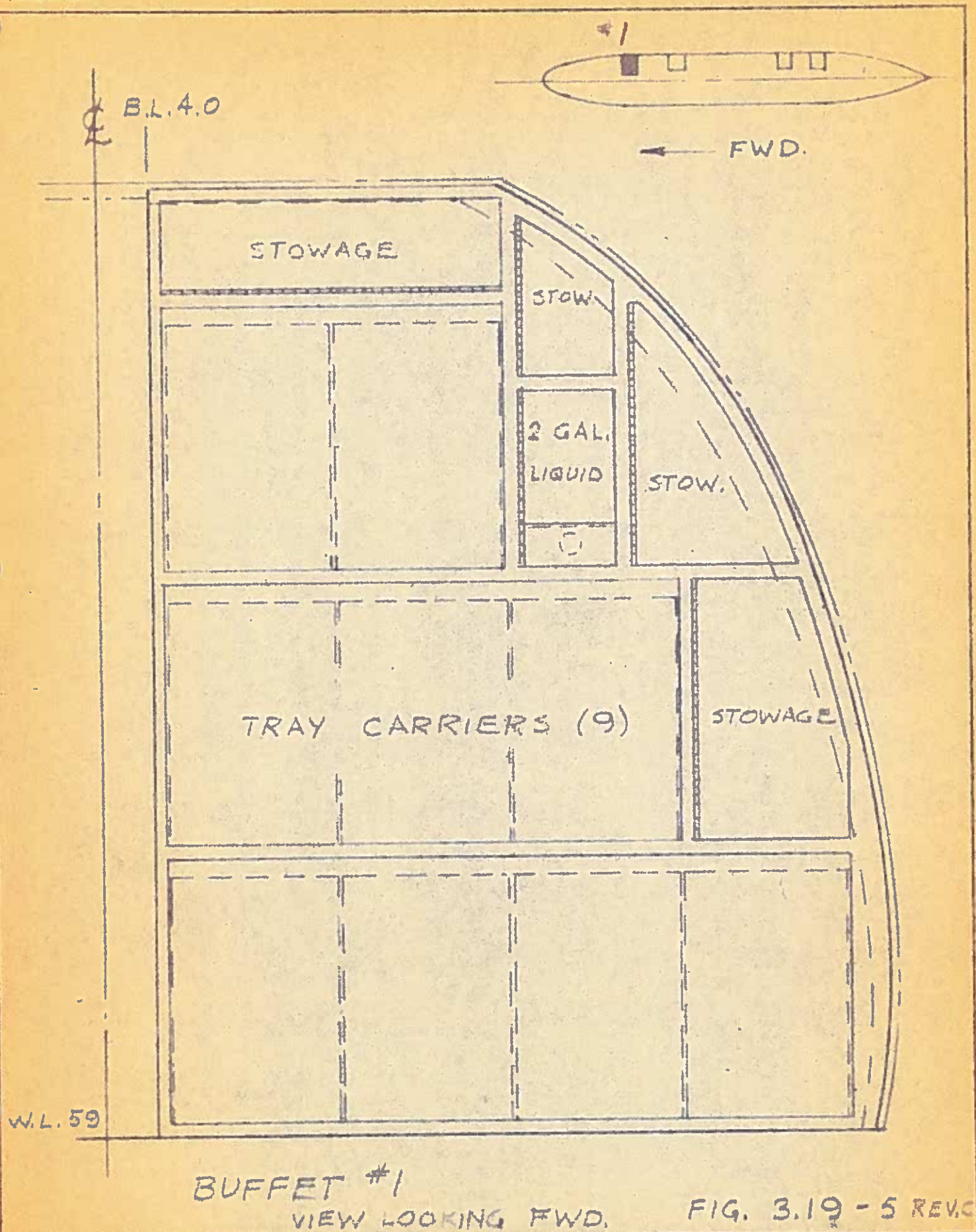
VIEW LOOKING AFT.

FIG 3.19-6 REV. C

ANALYSIS
PREPARED BY
CHECKED BY
REVISED BY

CONVAIR
A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO

PAGE
REPORT NO.
MODEL DAL.
DATE 10-4-57



C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 9 May 1957

CUSTOMER: Delta Air Lines, Inc.

MCL Dtd

CHANGE NO: 34

MODEL: (880) 22-2

TITLE: Flux Valve, Wing Inspection Plate - Relocation of

ORIGIN: Contractor Initiated

REASON FOR CHANGE: Inspection and adjustment after installation is not practical from underside of wing, thus requiring access from upper wing surface.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

None

None

None

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring:

Non-Recurring

Total:

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY:

BY:

DATE:

Chief of Contract Administration
Commercial

CONVAIR: SD

9 May 1957
Change No. 34

Title: Flux Valve, Wing Inspection Plate - Relocation of

Origin: Contractor Initiated

Reason for Change: Inspection adjustment after installation is not practical from underside of wing, thus requiring access from upper wing surface.

Description of Change:

Page 61, Paragraph 3.14.3.4.1 - FLUX VALVE:

Change first sentence to read:

"Two flux valve units shall be installed in one wing tip area with an access door in the upper wing surface."

Effect on Weight Empty: None
Effect on Balance: None
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines, Inc.

MCL 10,068 Dtd 22 May 1957

CHANGE NO: 33C

MODEL: (880) 22-2

TITLE: Club Area, In lieu of Lounge and Two Rows of Standard Seats

ORIGIN: Contractor Initiated

REASON FOR CHANGE: To provide a 12-place club area and revision to CCP No. 33.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+178.5 lbs

+178.5 lbs

+81,418 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 33C

Page 1 of 3

Title: Club Area, In Lieu of Lounge and Two Rows of Standard Seats

Origin: Contractor Initiated

Reason for Change: To provide a 12-place club area, and revision to
CCP No. 33.

Description of Change:

Page v - INTRODUCTION:

✓ In eighth line of first paragraph, change "80 to 108" to "84 to 107".

Page 1, Paragraph 1.1 - BASIC TYPE:

In fifth line of first paragraph, change "80" to "84", and in
seventh line, change "108" to "107".

Page 12, Paragraph 3.1.2.2 - LOADING SUMMARY:

Under "Payload", change "(80 passengers plus 4 lounge)" to "(84 pas-
sengers including 12-place club area)".

Page 81, Paragraph 3.16.11.4 - CALL SYSTEM:

Revise third sentence to read as follows:

"Call lights to indicate calls as follows: One from the club area (or
forward passenger area) and one from the after passenger area, one
from each lavatory, and one from the flight deck shall be installed
and shall be visible from the passenger compartment and the cabin
attendants' stations."

Page 83, Paragraph 3.16.11.4.1 - PASSENGER CALL SWITCHES:

Revise first sentence to read as follows:

"Call switches shall be installed; two for each row of seats within
reach of passengers, one in each lavatory and six in the club area."

Page 103, Paragraph 3.19.1.1 - INTERIOR:

Revise first sentence to read:

"The interior shall include furnishings and equipment for 84 passen-
gers, including 12 club area passengers, plus crew accommodations."

Page 104, Paragraph 3.19.1.1.5 - LOUNGE SEATS:

Delete paragraph title and first sentence and substitute following:

"CLUB AREA SEATS: A 12-place club area shall be provided aft of the forward main entrance door, with seat assemblies arranged as follows:

- (1) Left hand double seat facing aft
- (2) Right hand double seat facing aft
- (3) Right hand double seat facing forward
- (4) Left hand quadruple seat assembly
- (5) Right hand double seat facing inboard

Page 104, Paragraph 3.19.1.1.6 - PASSENGER SEATS:

Change the words "lounge type", appearing in the third line, and "lounge" appearing in the ninth and eleventh lines, to "club area".

Page 105, Paragraph 3.19.1.1.8 - CONVERTIBILITY:

Revise paragraph to read as follows:

"The standard 84-passenger configuration (including 12-club area passengers) shall include full provisions to permit quick conversion to a full range of mixed class interiors utilizing the two coat compartments shown in Figure 1-3 as dividers. These coat compartments shall be designed to utilize the standard floor seat attach points and thus may be placed in any of the rows between rows six and fifteen inclusive, excluding emergency hatch areas, in the main cabin section. Each of the twenty-two seat rows shall incorporate standard cabin windows, and each row aft of the club area shall have reading lights and individual air outlets for five abreast seating as shown in the coach configuration in Figure 1-3. All rows shall permit the installation of standard seats or coach seats. Provisions shall be made for installation of a left and right hand hat rack in the club area for use with four and five abreast seating arrangements."

Page 109, Paragraph 3.19.2.8.8 - MAGAZINE RACKS:

Revise paragraph to read:

"Four magazine racks of the self cleaning type shall be installed; one in aft part of the forward entrance area, two in aft part of aft entrance area and one in the club area."

Page 110, Paragraph 3.19.3.1.1 - PASSENGER COMPARTMENT:

Revise first sentence to read:

"The passenger compartments provide seating accommodations for 84 passengers, including 12-club area passengers."

Add to last sentence: " except in the areas of lowered ceiling."

Page A2, APPENDIX I-C - ELECTRICAL SYSTEM:

Under "Interior Lights", tenth item, "Fasten Seat Belts - No Smoking Sign"

Change: "2 Fasten Seat Belts - No Smoking Sign" to "4 Fasten Seat Belts - No Smoking Sign"

Page A12, APPENDIX I-C - FURNISHINGS:

Revise Description List as follows:

Fifth item, "Passenger Seats (Double) change: "40 Passenger Seats (Double)" to "36 Passenger Seats (Double)".

Sixth item, "Lounge Seats (Double)" change: "2 Lounge Seats (Double)" to "4 Club Area Seats (Double)"

Figure 1-2 - INBOARD PROFILE AND PLAN VIEW
Figure 1-3 - ALTERNATE SEATING ARRANGEMENT
Figure 3.7-1 - EMERGENCY EXIT FLOW
Figure 3.19-4 - HIGH PRESSURE OXYGEN GAS SYSTEM SCHEMATIC

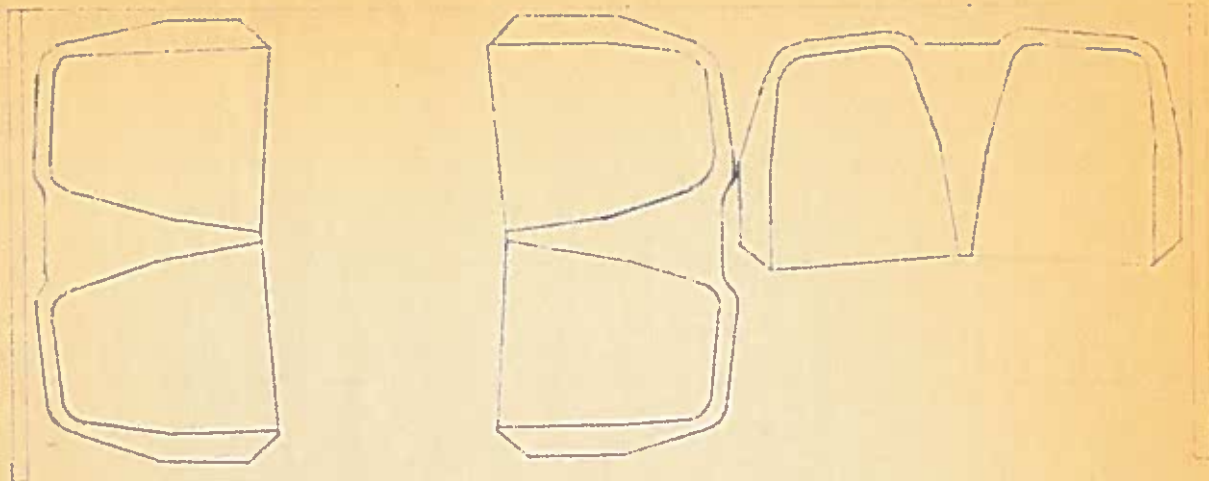
Revise above figures as required to reflect change.

Enclosure: (A) One (1) copy of sketch of proposed Club Area Arrangement.

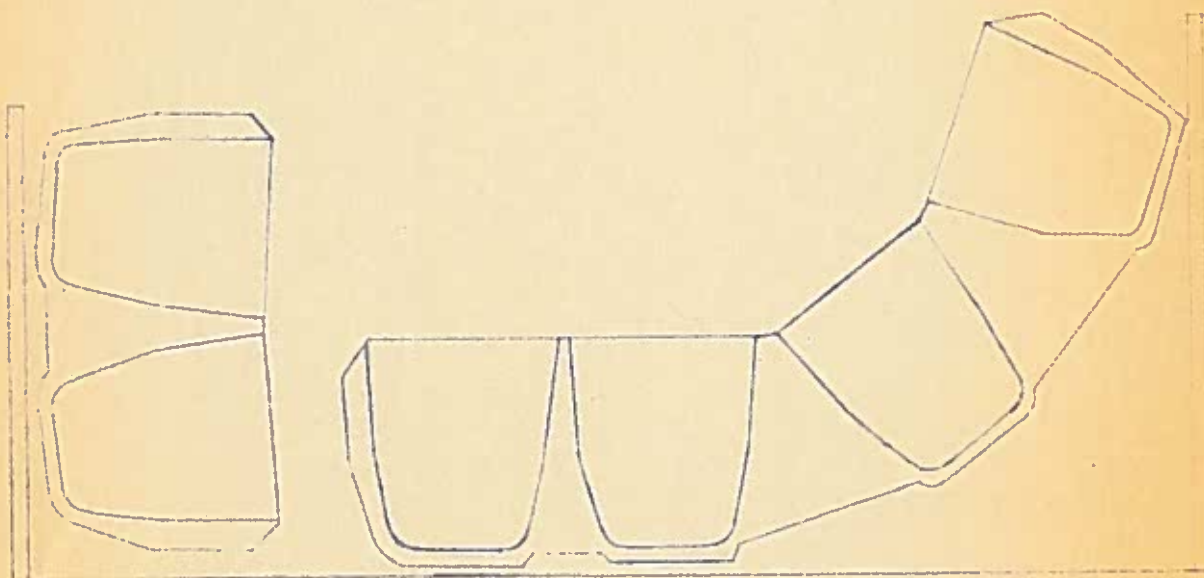
Effect on Weight Empty: +178.5 pounds
Effect on Balance: +81,418 inch-pounds
Effect on Performance: None

The following not to appear in Specification language:

"The effects of CCP No. 35B, Proposal No. 2, have been incorporated in this change."



← FWD



12-PLACE CLUB AREA

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,030 Dtd 18 March 1957

CHANGE NO: 32B

MODEL: (880) 22-2

TITLE: Engine Air Starter System, Modification of

ORIGIN: Reference: Delta Letters, File 142 dated 1 February and 3 May 1957, and Telecon of 16 May 1957 (Mellinger to Nycum); Delta Letter, File 142 dated 23 July 1957 and Telecon of 17 August 1957 (Delta to Convair).

REASON FOR CHANGE:

Customer request to incorporate provisions for utilization of a ground line combustor for starting engines No. 3 and No. 4.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+52.0 lb

+52.0 lb

+37,914

Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 32B

Page 1 of 2

Title: Engine Air Starter System, Modification of

Origin: **Reference:** Delta Letters, File 142 dated 1 February and 3 May 1957, and Telecon of 16 May 1957 (Mellinger to Nycum) Delta Letter, File 142 dated 23 July 1957 and Telecon of 17 August 1957 (Delta to Convair).

Reason for Change: Customer request to incorporate provisions for utilization of a ground line combustor for starting engines No. 3 and No. 4.

Description of Change:

Page 44, add following new paragraph to bottom of the page:

"3.11.9 GROUND COMBUSTOR STARTER ACCESS: One access door each shall be installed in the No. 3 and No. 4 nacelles with an electrical receptacle and duct connector installed inside each door for utilization of a ground line combustor for engine starting. The airplane nipple shall be capable of accepting a "Wiggins" 2-inch ground starter hose connector No. GSS155-32H."

GSS155-32H

Page 47, Paragraph 3.12.4.4 - STARTERS;

After third sentence, ending in fifth line, insert the following:

"In addition, provisions shall be made on No. 3 and No. 4 engines for utilization of a ground line combustor for engine starting."

Page 57, Paragraph 3.12.12 - STARTING SYSTEM:

After first sentence, insert the following:

"Two additional control switches, to be energized from an outside source, shall be provided to permit ground line combustor starting from the cockpit."

Page A3, APPENDIC I-C - ELECTRICAL SYSTEM:

Add the following new items:

<u>Quan.</u> <u>Reqd</u>	<u>Description</u>	<u>Mfr.</u>	<u>Part or</u> <u>Spec. Number</u>
2	Control Switches (For ground starter equip- ment)		
1	Electrical Receptacle (For ground starter equipment)	AIResearch (7-pin connector)	

Figure 3.12-1 - ENGINE STARTING SYSTEM

Figure 3.20-1 - AIR CONDITIONING, ANTI-ICE SYSTEM SCHEMATIC

Revise figures as required to reflect above changes.

Effect on Weight Empty: +52.0 pounds
Effect on Balance: +37,914 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 7 June 1957

CUSTOMER: Delta Air Lines Inc.

MCL 10046 Dtd 3 May 1957

CHANGE NO: 31

MODEL: (880) 22-2

TITLE: External Engine Carrying Pod, Provisions for *Rejected*

ORIGIN: TWA Requested, Ref: TWA Letter 880-110 dated 5 April 1957,
and Contractor proposed for Delta

REASON FOR CHANGE:
To provide means for carrying a spare engine pod.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+75.0 lb

+75.0 lb

+62,525 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: * None. For effects on performance
with external pod installed, see attached page.

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR:SD

Delta Air Lines Inc.
Change No. 31
7 June 1957

Title: External Engine Carrying Pod, Provisions for
Origin: TWA Requested and Contractor Proposed for Delta
Reason for Change: To provide means for carrying a spare engine pod.

Description of Change:

Page 45, add the following new paragraph:

"3.12.2.1 EXTERNAL ENGINE CARRYING POD: Provisions shall be made for carrying a spare engine externally under the right wing between the inboard nacelle and fuselage, by means of a pod supported by a pylon bolted to the under surface of the wing. Support fittings, fasteners and reinforcement provisions shall be installed as required. The pod assembly, when installed, shall be included in the Alternate Useful Load. See Appendix III.

Enclosure: (A) Three (3) copies Convair Dwg. SD-57-03037 - Spare Engine Transportation Pod CJ-805(UE) & (P & W) JT-3C-4 & JT-4A3, Model 22 Aircraft

Effect on Weight Empty:
Effect on Balance:
Effect on Performance:

+75.0 lb
+62,525 inch-lb
See attached page

APPENDIX III, EXTERNAL ENGINE CARRYING POD

Reference: Convair Drawing No. SD-57-03037 - Spare Engine Transportation Pod - CJ-805(GE) & (P & W) JT-3C-4 & JT-4A-3, Model 22 Airplane

1. POD AND PYLON:

1.1 POD: An external spare engine carrying pod shall be provided and installed. The pod shall be fabricated of Fibreglas and be reinforced with Fibreglas rope and metal, and shall incorporate stowing provisions for all engine mount fittings required for engine models called out in Paragraph 1.2 of this Appendix. The center and tail cone of pod shall be detachable by means of quick-acting latches. Pod shall be provided with forward and aft handles on each side to facilitate ground handling or stowage.

1.2 PYLON: A pylon of box type beam structure with provisions for main engine mount pickup for engine Models CJ-805, JT-3C and JT-4A shall be furnished. The pylon shall be equipped with fittings and other attachments for securing pylon to the wing, and for assembly with the pod. Access doors as required shall be provided to permit attachment or detachment of the pylon.

2. ENGINE HOISTING:

2.1 ENGINE HOISTING PROVISIONS: Engine hoisting provisions shall be contained within the pylon, and shall consist of support brackets as required, hand-crank sheave with pawl and ratchet, cables, fittings and tie down provisions.

3. PERFORMANCE CHARACTERISTICS: Will be submitted at a later date when data becomes available.

4. AERODYNAMICS CHARACTERISTICS: Will be submitted at a later date when data becomes available.

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6-12-57 (3/44/58)

SPEC NO: ZD-22-003

DATE: 10,222 9 April 1958
MCL 10,078 Dtd 2 May 1958

CUSTOMER: Delta Air Lines Inc.

CHANGE NO: 30B

MODEL: (880) 22-2

TITLE: Portable Oxygen System, Revision to

ORIGIN: Delta requested during meeting between Delta and Convair representatives on 23, 24 and 25 April 1958.

REASON FOR CHANGE: Customer requested, and revision to CCP No. 30 and CCP No. 30A.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

-32.0 lbs

-29,310

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:
This CCP cancels and
supersedes CCP No. 30
and CCP No. 30A.

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring: _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

Title: Portable Oxygen System, Revision to

Origin: Delta requested during meeting between Delta and Convair representatives on 23, 24 and 25 April 1958.

Reason for Change: Customer requested, and revision to CCP No. 30 and CCP No. 30A.

Description of Change:

Page 114, Paragraph 3.19.5.5 MASK:

Revise the last sentence to read as follows:

"Passenger masks shall be of the disposable type."

Page 114, Paragraph 3.19.5.6 PORTABLE BOTTLES:

Revise the paragraph to read as follows:

"One portable 11-cubic foot capacity, high pressure protective oxygen unit, including cylinder, full face mask and one pair of asbestos gloves, shall be provided in the flight station. Three 7-cubic foot capacity portable oxygen bottles, each with continuous flow regulators and two Scott "KS" continuous flow mask assemblies shall be provided in the passenger compartment. The bottles shall be located as follows: one in the forward left hand hatrack stowage bin, one in the left hand mid-cabin stowage bin and one in the aft left hand stowage bin."

Page A-15, APPENDIX I-C, OXYGEN SYSTEM:

Change the fifth item in the Description List as follows:

From: "2 Air-Pac - Portable (Crew Compartment)"

To: "1 Portable O₂ Cylinder Assembly Scott 6080-3L"
(11-cubic foot) (Crew Compartment)

Change the sixth item in the Description List as follows:

From: "3 Portable O₂ (310 liter)"

To: "3 Portable O₂ Cylinder Assemblies, Scott 5500-1 AB"
(7-cubic foot) (Passenger Compartment)
with Scott "KS" masks, Scott 8611 60-inch
hose and ARO 0674-A10 nipple.

CONVAIR: SD

Delta Air Lines Inc.
Change No. 30B

Page 2 of 2

Page A-15, APPENDIX I-C, OXYGEN SYSTEM (Cont)

Delete the eighth item in the Description List as follows:

"2 pr. Asbestos Gloves"

	<u>Weight (lb)</u>	<u>Moment (inch-lb)</u>
Effect on Weight Empty:	0	0
Effect on Fixed Useful Load:	-32.0	-29,310
Effect on Operating Weight Empty:	-32.0	-29,310
Effect on Performance:	None	

Cal. Change No. 29-A

(Cancelled)

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: Rev. 2 August 1957
20 June 1957

CUSTOMER: Delta Air Lines Inc.

MCL 10,074 Dtd 7 June 1957

CHANGE NO: 28A

MODEL: (880) 22-2

TITLE: Integrally Lighted Instruments; Installation or Wiring Provisions of

ORIGIN: Reference: C.C.P. No. 28 dated 24 April 1957, and Delta TWK, Nycum to Eastland, dated 22 May 1957

REASON FOR CHANGE: Customer request for revision of C.C.P. No. 28

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty	Oper. Wt. Empty	
Proposal 1, +12.5 lb	Proposal 1, +12.5 lb	Proposal 1, +3158 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

Proposal 1 - None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Delta Air Lines Inc.
Change No. 28A
20 June 1957
Rev. 2 August 1957

Title: Integrally Lighted Instruments; Installation or Wiring Provisions of

Origin: Reference: C.C.P. No. 28 dated 24 April 1957 and Delta TWX, Nycum to Eastland, dated 22 May 1957

Reason for Change: Customer request for revision of C.C.P. No. 28

Description of Change:

- See attached: Enclosure: (A) Proposal No. 1 - Installation of clamp mounted and integrally lighted instruments at all locations except Flight Engineer's Panel.
- *(B) Proposal No. 2 - Installation of clamp mounted Non-lit instruments at all locations.
- ** (C) Proposal No. 3 - Installation of wiring provisions only at all locations to permit Customer installation of integrally lighted instruments.

* Requirements for Proposal No. 2 cancelled after Convair investigations.

** Deleted.

Weight Data:

Proposal No. 1	-	Effect on Weight Empty:	+12.5 pounds
		Effect on Balance:	+31.58 inch-pounds
		Effect on Performance:	None

Proposal No. 2 -

Proposal No. 3	-	Effect on Weight Empty:	+8.0 pounds
		Effect on Balance:	+22.40 inch-pounds
		Effect on Performance:	None

CONVAIR: SD

Delta Air Lines Inc.
Change No. 28A
20 June 1957
Page 1 of 4
Rev. 2 Aug. 1957

Enclosure: (A) Proposal No. 1 - Installation of clamp mounted and integrally lighted instruments at all locations except Flight Engineer's Panel.

NOTE: *Item integrally lighted and clamp mounted.

Description of Change:

Page 58, Paragraph 3.14.1.1 - PILOT'S INSTRUMENTS:

Change paragraph title to "PILOT'S INSTRUMENT PANEL" and revise instrument list as follows:

- * One indicator, airspeed, angle of attack
- * One indicator, compass (remote) Sperry C-6
- * One clock
- * One indicator, Mach. No. (Syn. Trans. Type)
- * One altimeter (3-pointer type)
- * One deviation indicator, Sperry R-1
- * One indicator, rate of climb
- * One indicator, R.M.I.
- * One indicator, turn and slip
- * One tester, Autopilot Yaw Damper
- * One gyro horizon (Sperry HZ-4)
- One set marker beacon lights
- One essential buss failure indicator light
- One airspeed system electrical fail warning light
- One compass slaving switch
- One KIFIS test switch
- One master caution light

CONVAIR: SD

Delta Air Lines Inc.
Change No. 28A
20 June 1957
Page 2 of 4
Rev. 2 Aug. 1957

Enclosure: (A) Proposal No. 1 (Continued)

NOTE: *Item integrally lighted and clamp mounted.

Page 58, Paragraph 3.14.1.2 - COPILOT'S INSTRUMENTS:

Change paragraph title to "COPILOT'S INSTRUMENT PANEL" and revise instrument list as follows:

- * One indicator, airspeed, true
- * One indicator, airspeed angle of attack
- * One indicator, compass (remote) Sperry C-6
- * One clock
- * One indicator, Mach. No. (Syn. Trans. Type)
- * One altimeter (3-pointer type)
- * One deviation indicator, Sperry R-1
- * One indicator, rate of climb
- * One indicator, R.M.I.
- * One indicator, turn and slip
- * Two indicator, hydraulic pressure
- * One gyro horizon (Sperry HZ-4)
- One instrument power failure indicator light
- One set marker beacon lights
- One KIPIS test switch
- One compass slaving switch

CONVAIR: SD

Delta Air Lines Inc.
Change No. 28A
20 June 1957
Page 3 of 4
Rev. 2 Aug. 1957

Enclosure: (A) Proposal No. 1 (Continued)

NOTE: *Item integrally lighted and clamp mounted.

Page 58, Paragraph 3.14.1.3 - ENGINE INSTRUMENTS:

Change paragraph title to: "ENGINE INSTRUMENT PANEL" and revise instrument list as follows:

- * One indicator, master static air temperature
- * Four indicator, exhaust temperature, Null Balancing Type
- * Four indicator, engine pressure ratio
- * Four indicator, tachometer
- * Four indicator, fuel flow
- * One indicator, fuel quantity totalizer
- * One indicator, ram air temperature
- * One indicator, Autopilot, 3-Axis Trim
- * One indicator, flap position, dual
- Four oil pressure low warning light
- Four landing gear position indicator light
- One landing gear control handle
- One landing gear door indicator light
- Four in transit light - thrust reverse
- Four reverse thrust indicator light
- Four engine overheat light

CONVAIR: SD

Delta Air Lines Inc.
Change No. 28A
20 June 1957
Page 4 of 4
Rev. 2 Aug. 1957

Enclosure: (A) Proposal No. 1 (Continued)

NOTE: *Item integrally lighted and clamp mounted.

Page 59, Paragraph 3.14.1.5 - MISCELLANEOUS INSTRUMENTS:

Delete: Eighth item in instrument list: "Required hydraulic pressure indicators"

Delete: Fourteenth item in instrument list: "Two flap position indicators".

Add: "One indicator, emergency air brake (in auxiliary side panel)".

Figure 3.14-1 - PILOT AND COPILOT INSTRUMENT PANEL

Figure 3.14-2 - PILOT AND COPILOT CONSOLE

Figure 3.14-4 - PILOT'S AND COPILOT'S OVERHEAD PANEL

Revise figures to reflect changes proposed by Enclosure (A) of this Change No. 28A.

Following not to appear in Specification language:

"APPENDIX I-C of Specification will be revised to be compatible with changes on Customer's acceptance of Proposal No. 1 of this Change No. 28A. Manufacturer's name and/or part number, where not presently provided, will be furnished when available, with revisions to existing part numbers as applicable."

CONVAIR: SD

Delta Air Lines Inc.
Change No. 28A
20 June 1957
Rev. 2 Aug. 1957

Exhibit to Change No. 28A

Manufacturers, and Part Numbers of Integrally Lighted Instruments:

QUAN. REQD	DESCRIPTION	MANUFACTURER	PART OR SPEC. NUMBER
1	Indicator, Autopilot, 3-Axis Trim	Sperry	1776004-1
2	Indicator, airspeed, angle of attack	Kollsman	A29297-10, plus range marks
2	Indicator, compass (remote) Sperry C-6L	Sperry	1777213-620
2	Clock	Wakmann	W33-7530-10
2	Indicator, Mach. No. (Syn. Trans. Type)	Kollsman	A29247-10-001
** 2	Altimeter (3-pointer type)	Kollsman	A30410-00-001
2	Deviation indicator, Sperry R-1	Sperry	R-1L #1777211-621
2	Indicator, rate of climb	Pioneer	1653-6AB-A6-1
2	Indicator, R.M.I.	Pioneer	36126-1AF-25-A1
2	Indicator, turn and slip	Pioneer	3920-1AD-A1-1
1	Compass, magnetic	U. S. Gauge	C-4B
1	Tester, Autopilot Yaw Damper	Sperry	1777967
1	Indicator, airspeed, true	Kollsman	A29277-10-001
1	Indicator, flap position, dual	G. E.	8DJ91LAB-1
2	Indicator, hydraulic pressure	U. S. Gauge	SRL-07, plus range marks
1	Indicator, master static air temperature	Kollsman	A29257-10-001
4	Indicator, exhaust temperature Null Balancing Type	Honeywell	*JG116A
4	Indicator, engine pressure ratio	Kollsman	29187-10-001
4	Indicator, tachometer	G. E.	8D-J81-LAB
4	Indicator, fuel flow	G. E.	8DJ97LAA1
1	Indicator, fuel quantity totalizer	Part number to be supplied.	
1	Indicator, ram air temperature	Lewis	161BCL2
*** 2	Horizon, Remote Indicator	Sperry	1776365-622

* Similar to part number shown except shall be integrally lighted.

** Includes A30397-10-001 indicator and B2604-00-001 for scale error corrector.

*** Added from CCP #24 (S.O. 880-2-25)

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 4 April 1957
CUSTOMER: Delta Air Lines MCL 10,023 Dtd 31 Jan. 1957
CHANGE NO: 27 MODEL: (880) 22-2

TITLE: Sperry Auto-Pilot - Installation of:

ORIGIN: Customer Request: Reference: DAL Ltr. 142, dtd. 25 Jan. 1957

REASON FOR CHANGE: Customer requests a proposal for the Sperry SP-30 Auto-Pilot, in lieu of the Bendix PB-30 Auto-Pilot.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-7.0

-7.0

+1837 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

Title: Sperry Auto-Pilot - Installation of:

Origin: Customer Request - Reference: Delta Ltr. 142
dated 25 January 1957

Reason for Change:

Customer requests a proposal for the Sperry SP-30
Auto-Pilot, in lieu of the Bendix PB-20 Auto-Pilot.

Description of Change:

Page 42, paragraph 3.10.4, AUTOMATIC FLIGHT CONTROL:

Delete second sentence.

In third sentence:

Change: "effect"
to: "provide"

Page A-8, Appendix I-C, INSTRUMENTS & RELATED EQUIPMENT

Auto-Pilot

Delete and Add the following:

- | | | |
|---|--------------------------|--------------|
| 1 | Stabilizer Computer | 1776002 |
| | Consisting of: | |
| 3 | Servo Amplifier | 619298-1 |
| 1 | Safety Monitor | 1775389 |
| 1 | Trim Coupler | 1775390 |
| 1 | Stabilizer Computer Rack | 1776258 |
| 1 | Flight Control Computer | 1776003-03 |
| | Consisting of: | |
| 1 | Yaw Command Computer | 620134 |
| 1 | Roll Command Computer | 1775339 |
| 1 | Pitch Command Computer | 1775391 |
| 1 | Radio Coupler | 1775388 |
| 1 | Pressure Computer | 1775882-4 |
| 1 | Interlock Rack | 1775392-03 |
| 1 | Vertical Gyro | 617926-1 |
| 1 | Gain Calibrator | 1776710-01 ✓ |
| 4 | Linear Accelerometer | 615794-1 |
| 2 | Linear Accelerometer | 615794-2 |
| 2 | Servo Drive | 615743-03 |
| 2 | Servo Bracket | 615144-01 |

CONVAIR:SD

4 April 1957
Change No. 27

Title: Sperry Auto-Pilot - Installation of:

1 Rudder Actuator ✓
1 Yaw Damper Tester
1 Auto Pilot Controller
1 Auto Pilot Indicator
1 Trim Servo Motor & Drive
1 Trim Servo Drum & Bracket ✓

1777967
1776001
1776004
669388
675611

Effect on Weight: Weight Empty -7.0
Effect on Balance: +1837
Effect on Performance: NONE

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL Revised 10,027 Dtd _____

CHANGE NO: 26A

MODEL: (880) 22-2

TITLE: **Provisions for Overwater Operation.**

ORIGIN: **Customer requested, Reference: Meeting of 2 August 1957
between Delta and Convair representatives.**

REASON FOR CHANGE:
To comply with CAR requirements for overwater operation.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

See attached sheet

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 26A

WEIGHT DATA

EFFECT ON WEIGHT

STANDARD VERSION

COACH VERSION

*Effect on Weight Empty:
*Operating Weight Empty:
Alternate Useful Load:

+111.0 lbs
+111.0 lbs
+814.0 lbs

+117.0 lbs
+117.0 lbs
+957.0 lbs

EFFECT ON BALANCE:

STANDARD VERSION

COACH VERSION

Weight Empty:
Operating Weight Empty:
Alternate Useful Load:

+ 82,891 in-lbs
+ 82,891 in-lbs
+471,493 in-lbs

+ 87,966 in-lbs
+ 87,966 in-lbs
+589,277 in-lbs

EFFECT ON PERFORMANCE: None

* Alternate Useful Load not included in Operating Weight Empty.

CONVAIR: SD

Delta Air Lines Inc.
Change No. 26A

Page 1 of 2

Title: Provisions for Overwater Operation

Origin: Customer requested, Reference: Meeting of 2 August 1957
between Delta and Convair representatives.

Reason for Change: To comply with CAR requirements for overwater
operation.

Description of Change:

Page 78, Paragraph 3.16.8.5.1 - CONTROLS:

Delete paragraph and substitute the following:

"3.16.8.5.1 INDEPENDENT LIGHT ASSEMBLIES: Seven independent light assemblies incorporating self-contained batteries shall be installed. Six shall be installed at the emergency exits and one on the flight deck. Lights shall be automatically energized during a crash landing or when airplane power is cut off. Lights may be switched off during normal shut down of airplane power, or switched on for manual operation or for test."

Page 90, Paragraph 3.17.1 - EQUIPMENT:

Add the following item to list under "Complete provisions for the following systems shall be made":

"Emergency Radio Transmitter"

Page 101, add the following new paragraph:

"3.17.3.5.3 EMERGENCY RADIO TRANSMITTER: Provisions shall be made for the stowage of one AN/CRT-3 emergency radio transmitter in the forward L.H. coat compartment. The emergency transmitter and stowage assembly, when installed shall be included in the Alternate Useful Load."

Page 104, Paragraph 3.19.1.1.6 - PASSENGER SEATS:

Delete the fourth sentence, starting in sixth line, and substitute the following:

"Stowage provisions for life preservers shall be made on underside of passenger seats. When life preserver provisions are not installed, a minimum space of 10 x 15 x 24 inches shall be provided under the seats, exclusive of lounge seats, for passenger package stowage. Life preservers, when installed shall be included in the Alternate Useful Load."

Page 115, add the following new paragraph:

"3.19.7 PROVISIONS FOR OVERWATER FLIGHT OPERATION:

3.19.7.1 LIFE RAFTS: Provisions shall be made for stowage of four 25-man life rafts and one 20-man raft in the standard version; and four 25-man life rafts and two 20-man rafts in the coach version. The stowage provisions shall be located as follows:

- One 25-man in forward L.H. coat compartment (Standard and Coach)
- Two 25-man in forward R.H. Coat compartment (Standard and Coach)
- One 25-man in aft class divider, L.H. (Standard and Coach)
- One 20-man in aft class divider, L.H. (Standard)
- Two 20-man in aft class divider, L.H. (Coach)

Life raft lanyard fittings shall be installed, one each at the two forward exits and the two overwing exits. Life rafts and stowage strap assemblies, when installed, shall be included in the Alternate Useful Load."

Page A2, APPENDIX I-C, INTERIOR LIGHTS

Add the following new item to Description list:

"7 Independent Light Assemblies"

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL --- Dtd ---

CHANGE NO: 25

MODEL: (880) 22-2

TITLE: A-C Generators, Clarification of

ORIGIN: Contractor initiated.

REASON FOR CHANGE: Specification Administrative Change.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

None

None

None

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 25

Title: A-C Generators, Clarification of

Origin: Contractor initiated.

Reason for Change: Specification Administrative Change

Description of Change:

Page A3, APPENDIX I-C, ELECTRICAL EQUIPMENT:

Delete 11th item from Description List:

"4 Alternators - 30 KVA Approx. 115/200 v 3 Ø"

Change last item in Description List as follows:

From: * Generator - 30 KVA @ 76.0 lb
304.0 lb

To: 4 Generator, 40 KVA 6000 RPM @ 76.0 lb General Electric
304.0 lb

Effect on Weight Empty: None
Effect on Balance: None
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 28 May 1957

CUSTOMER: Delta Air Lines, Inc.

MCL 10,049 Dtd 3 May 1957

CHANGE NO: 24

MODEL: (880) 22-2

TITLE: Attitude Indicator System, Change of

ORIGIN: Customer Requested, Ref.: Delta Letter 142, dated
25 January 1957

REASON FOR CHANGE: To specify instruments which are compatible with
modified Compass System.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+ 24.6 lb

+ 24.6 lb

+ 8,099 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

PC-74
28 May 1957
Change No. 24

Title: Attitude Indicator System, Change of

Origin: Customer Requested, Ref: Delta Letter 142 dated
25 January 1957

Reason for Change: To specify instruments which are compatible with
Modified Compass System.

Description of Change:

Page 58, Paragraph 3.14.1.1 - PILOT'S INSTRUMENTS:

In instrument list, change "One gyro horizon (Sperry 4")" to read
"One gyro horizon remote indicator (Sperry HZ-4)"

Paragraph 3.14.1.2 - COPILOT'S INSTRUMENTS:

In instrument list, change "One gyro horizon (Sperry 4")" to read
"One gyro horizon remote indicator (Sperry HZ-4)"

Page A8, APPENDIX I-C - INSTRUMENTS AND RELATED EQUIPMENT:

Add following to bottom of page:

ATTITUDE INDICATOR SYSTEM:

1	Vertical Gyro	Sperry	#617926-1
4	Servo Amplifier Modules	Sperry	#618379
2	Gyro Horizon Remote Indicator	Sperry HZ-4	#1776265

Effect on Weight Empty: +24.6 lb
Effect on Balance: +8099 inah-lb
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 8 May 1957
CUSTOMER: Delta Air Lines, Inc. MCL _____ Dtd _____
CHANGE NO: 23 MODEL: (880) 22-2

TITLE: **Shaver Outlet, Change from 115 volts ac to 115 volts dc**

ORIGIN: **Contractor Initiated**

REASON FOR CHANGE: **Administrative Type Change to correct and clarify intent of specification.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
None	None	None Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring: _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

8 May 1957
Change No. 23

Title: Shaver Outlet, Change from 115 volt ac to 115 volt dc

Origin: Contractor Initiated

Reason for Change: Administrative Type Change to correct and clarify intent of specification.

Description of Change:

Page 79, Paragraph 3.16.10.3 - SHAVER OUTLETS:

Third line, after volts, change ac to dc.

Effect on Weight Empty:	None
Effect on Balance:	None
Effect on Performance:	None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL Revised 10,094 Dtd 21 June 1957

CHANGE NO: 22A

MODEL: (880) 22-2

TITLE: Water System, Pressurized, Single 50-gallon Tank, Change to

ORIGIN: Contractor initiated.

REASON FOR CHANGE: To improve system efficiency; and revision to CCP No. 22.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
-17.0 lb	-17.0 lb	-28,631 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: _____

AIRPLANES AFFECTED: _____

SPECIAL PROVISIONS: _____

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 22A

Page 1 of 2

Title: Water System, Pressurized, Single 50-gallon Tank, Change to

Origin: Contractor initiated.

Reason for Change: To improve system efficiency; and revision to CCP
No. 22.

Description of Change:

Page 59, Paragraph 3.14.1.4 - FLIGHT ENGINEER'S INSTRUMENTS:

Add the following to the instrument list:

"One Low water pressure warning light

One Water pump switch"

Page 106, Paragraph 3.19.2.1.2 - BUFFET EQUIPMENT:

Add to the bottom of the equipment list:

"Water filters"

Page 106, Paragraph 3.19.2.1.4 - WATER SYSTEM:

Delete paragraph and substitute the following:

"A pressurized potable water system shall be provided to supply the lavatory wash basins and buffets. Filters will be provided in buffets which have coffee makers or drinking water outlets. The system shall provide for draining on the ground. The tank capacity shall be 50 gallons of water with an adequate air space to act as a pressure reservoir. Means for filling on the ground at a rate of at least 10 gpm shall be provided. An overflow pipe from the tank shall visually indicate at the ground service connection when the tank is full. The system shall be located and designed to prevent freezing in flight. An air pump shall be provided. The pump assembly shall be rated for continuous duty operation.

The supply tank shall be designed to ensure that the last remaining 10 gallons in the tank will supply only the buffets.

Suitable controls shall be located on the flight engineer's panel for operation of the water system. These controls shall consist of the following:

1. Low pressure warning light
2. Pump switch"

CONVAIR: SD

Delta Air Lines Inc.
Change No. 22A

Page 2 of 2

Page A12, APPENDIX I-C, FURNISHINGS:

Change 21st item in Description List as follows:

From: AR Lavatory Water Tanks

To: 1 Potable Water Tank (50-gallon capacity, pressurized)

Add the following to bottom of the Description List:

" 1 Water System Pump
AR Buffet Water Filters"

Figures: 3.14-3 - FLIGHT ENGINEER'S PANEL
3.19-2 - WATER SYSTEM SCHEMATIC

Revise figures as required to reflect above changes.

Effect on Weight Empty: -17.0 pounds
Effect on Balance: -28,631 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: Revised 29 August 1957
1 July 1957
CUSTOMER: Delta Air Lines, Inc. MCL 10,087 Dtd 5 July 1957
CHANGE NO: 21A* MODEL: (880) 22-2

TITLE: Fuel System, Change from Pressure System to Electric Pump System

ORIGIN: Contractor Initiated.

REASON FOR CHANGE: To improve safety and reliability of the fuel system.

*Only revision is in page 2 which reinstates "and tank filler openings".

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: * None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring: _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Revised 29 August 1957
Delta Air Lines Inc.
Change No. 21A
1 July 1957
Page 1 of 6

Title: Fuel System Change from Pressure System to Electric Pump System

Origin: Contractor Initiated

Reason for Change: To improve safety and reliability of the fuel system.

Description of Change:

Page 48, Paragraph 3.12.9.1 - DESCRIPTION:

Insert the following between first and second sentences:

"The wing shall incorporate four fuel tank systems of integral construction; each tank system being divided into two parts consisting of a main and a replenishing system."

Page 49, Paragraph 3.12.9.1.1 - OPERATING LIMITS:

Delete fourth, fifth and sixth sentences starting in the ninth line.

In sixth line, insert "initial" between "with" and "fuel".

In seventh line, add "+" before "130°F".

Page 49, Paragraph 3.12.9.2 - PUMPS:

Change paragraph title to "BOOST PUMPS".

Revise first sentence to read: "Each main fuel tank shall be equipped with two ac electrically powered boost pumps."

Change second sentence to read:

"Each fuel supply system to the engine shall be so arranged that failure of either boost pump shall not result in an interruption of thrust throughout all normal flight altitudes."

Delete "or transfer" in eighth line.

Change sixth sentence starting in thirteenth line, to read:

"Each pump and its control relay shall receive power from the same source."

Delete eighth sentence, starting on the fifteenth line.

Page 49,,Paragraph 3.12.9.2.1 - ENGINE-DRIVEN FUEL PUMPS:

Change paragraph number to "3.12.9.2.2".

Add new paragraph as follows:

"3.12.9.2.1 - TRANSFER PUMPS: Transfer pumps shall be located, as shown in Figure 3.12-2, in each main tank to supply the boost pump baffle areas, and in each inboard replenishing compartment to supply the corresponding main compartments. Check valves shall also be provided to bypass all transfer pumps to permit flow by gravity from the replenishing area into the main tank area and also from the main tank into the baffle areas. Separate circuit breakers shall be provided for each pump. Each pump and its control relay shall receive power from the same source."

Paragraph 3.12.9.3 - TANKS:

In first line, insert "compartmented" between "integral" and "fuel".

In third line, change "3 percent" to "2 percent".

Page 50, Paragraph 3.12.9.3.1 - CROSS-FEED SYSTEM:

Change last sentence to read: "The indicator lights shall be off when the valves are fully open or fully closed."

Paragraph 3.12.9.5.1 - VENT SYSTEM OPERATING LIMITS:

In first sentence, change limits to read "+3.0 psi maximum and -2.0 psi minimum."

In third sentence, add the word "initial" after "+130°F."

Page 51, Paragraph 3.12.9.7.2 - LINE SHUTOFF VALVES:

Revise first sentence to read: "A shutoff valve shall be installed for each of the four tanks."

Add following to paragraph:

"The valves shall incorporate provisions to electrically indicate in-transit positions. The indicator lights shall be off when the valves are fully open or fully closed."

Page 51, Paragraph 3.12.9.7.3 - EMERGENCY SHUTOFF VALVES:

Revise first sentence to read:

"An emergency fuel shutoff valve for each engine supply system shall be mounted above and adjacent to the horizontal firewall."

Add following to paragraph:

"The valves shall incorporate provisions to electrically indicate when the valves are closed. The indicator lights shall be on when the valves are fully closed."

Page 52, Paragraph 3.12.9.8 - STRAINERS:

Delete last sentence and substitute following:

"An 8-10 mesh screen shall be installed at each fuel pump inlet."

Paragraph 3.12.9.9.1 - QUANTITY GAGES:

Revise fourth sentence, starting in eighth line, to read:

"One measurement system shall be provided for each fuel tank system with provisions to gage either main or total quantities."

Page 53, Paragraph 3.12.9.9.5 - FUEL SYSTEM WARNING DEVICES:

Delete third, fourth and fifth sentences:

Paragraph 3.12.9.10 - DRAINAGE PROVISIONS:

Change title to "FUEL JETTISON PROVISIONS".

Page 53, Paragraph 3.12.9.10.1 - TANK DRAIN:

Change title to "DESCRIPTION" and add the following:

MADE
"A fuel jettison system shall be provided and controlled from the pilot's compartment. Each main tank shall be equipped with a hydraulic motor driven jettison pump. Stand pipes shall be installed in each main tank to allow jettisoning fuel down to maximum landing weight. Provisions shall be provided in each inboard main tank to jettison all inboard fuel by means of a separate control."

Paragraph 3.12.9.10.2 - FUEL DUMP VALVES:

Delete paragraph number and title.

Page 53, Paragraph 3.12.9.12 - FUEL EVAPORATION CONTROL:

Delete paragraph (35 lines).

Change paragraph 3.12.9.9.6 to read "3.12.9.12 - FUEL TEMPERATURE INDICATION".

Page 55, Paragraph 3.12.9.13.1 - UNDER-WING REFUELING:

Add the word "system" to end of first sentence and repunctuate.

Change seventh sentence, starting on eleventh line, to read:

"The adapters shall be in accordance with MIL-A-7898, Type A-5 or an adaptation of this type."

Paragraph 3.12.9.13.2 - EMERGENCY REFUELING:

In first line, change "3-1/2 inches" to "3 inches".

Add the word "system" to end of first sentence, and repunctuate.

In fourth line, change "200 gpm" to "150 gpm".

Add the following sentence to end of paragraph:

"Suitable means shall be provided for connecting a ground wire from the refueling truck."

Paragraph 3.12.9.13.3 - REFUELING CONTROLS:

Revise first and second sentences to read as follows:

"A refueling panel shall be located in the aft section on the outboard side of each inboard pylon. The panels shall contain fuel quantity gages, pre-set quantity selectors, pre-check shutoff controls and jacks for microphone, headset and handset."

Page 56, Paragraph 3.12.11.2 - GENERAL CONTROLS:

Change last item in controls list from "Fuel dump controls" to "Fuel jettison controls".

Page 59, Paragraph 3.14.1.4 - FLIGHT ENGINEER'S INSTRUMENTS:

Change quantity of third item in instrument list from "Four" to "Eight".

Change fourth item to read: "Eight fuel transfer pump pressure warning lights".

Page 59, Paragraph 3.14.1.4 (Continued)

Change fifth item to read: "Four engine fuel pressure loss indicator lights".

Page 64, Paragraph 3.15.3.1 - DESCRIPTION AND COMPONENTS:

Revise second sentence to read:

"The low pressure pneumatic system shall provide wing anti-icing."

Delete last part of second sentence "and fuel system pressurization".

Delete third sentence starting on fourth line.

Page 84, Paragraph 3.16.17 - ESSENTIAL POWER, AC POWER:

Under heading "Fuel and Oil" add following new item:

"2. Fuel Transfer Pumps (6 of 8)".

Page 86, Paragraph 3.16.17 - ESSENTIAL POWER, DC POWER:

Under heading "Fuel and Oil", revise list to read as follows:

- "1. Fuel Shutoff
2. Engine Pump Warning Lights
3. Boost Pump Pressure Warning Lights
4. Transfer Pump Warning Lights
5. Oil Level Warning Lights".

Page B-3, Appendix I-D, COMPONENT REMOVAL AND REPLACEMENT TIME:

Delete following items from list:

Fourteenth item: "Fuel Pressurizing Valve"
Nineteenth item: "Fuel Tank Pressure Regulator"
Thirty-four item: "Bleed Air heat Exchanger".

Revise following Figures to reflect above changes:

- Figures: 3.12-1 Engine Starting System
 ~~3.12-2~~ Schematic, Engine Fuel Supply Subsystem
 ~~3.12-4~~ Schematic, Fuel Jettison, Subsystem.
 ~~3.12-5~~ Schematic, Refuel-Defuel Subsystem
 ~~3.12-3~~ Schematic, Fuel Tank Vent Subsystem

Delete: ~~3.12-7~~ Fuel Jettison Subsystem.

CONVAIR: SD

Revised 29 August 1957
Delta Air Lines Inc.
Change No. 21A
1 July 1957
Page 6 of 6

Enclosure: (A) Four (4) copies Figure 3.12-1
(B) Four (4) copies Figure 3.12-2
(C) Four (4) copies Figure 3.12-3
(D) Four (4) copies Figure 3.12-4
(E) Four (4) copies Figure 3.12-5

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: 0

C O N V A I R

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-003

DATE: _____

CUSTOMER: Delta Airlines, Inc.

MCL _____ DTD _____

CHANGE NO: 19J

MODEL: 22-2 (Convair "880")

TITLE: Manufacturer's Name and/or Part Number

ORIGIN: Customer approved specific designations for items of Convair or Buyer furnished equipment.

REASON FOR CHANGE: To identify equipment items listed in Appendix I-A or Appendix I-C.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	
0	0	0 INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *
None

<p>* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL</p> <p>ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:</p>	ENGINEERING APPROVAL
--	----------------------

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

Title: Manufacturer's Name and/or Part Number

Origin: Customer approved specific designations for items of Con-
vair or Buyer furnished equipment.

Reason for Change: To identify equipment items listed in Appendix
I-A or Appendix I-C.

Appendix I-A and Appendix I-C: Change or add manufacturer's name and/
or part number to item so as to read
as follows:

Page No.	Quan Reqd	Description	Manufacturer	Part or Spec. Number	
A-0		<u>ELECTRONIC EQUIPMENT</u>			
From:	2	ATC Transponder Beacon	Willcox	714B	47.6
To:	#2	ATC Transponder Beacon	Willcox	714B	47.6
	##2	ATC Transponder Beacon	Willcox	714C	47.6

Add the following to bottom of page:

#Effective Ships 1 through 13.
##Effective Ships 14 and on.

A-1		<u>FUEL SYSTEM EQUIPMENT</u>			
From:	8	Booster Pump Housing Assembly	Thompson Prod.	TB-141100-4 TB-139900-2 TB-139100	
To:	16	Booster Pump Housing Assembly	Thompson Prod.	TB-141100-4 TB-139900-2 TB-139100	
A-2		<u>EXTERIOR LIGHTS</u>			
From:	1	Light, Tail Position	Grimes	B7890-5	
	1	Light, Anti-Collision, Upper	Grimes	G9775-21-7079	
To:	*1	Light, Tail Position	Grimes	B7890-5	
	**1	Light, Tail Position	Grimes	B7890-7	
	*1	Light, Anti-Collision, Upper	Grimes	G9775-21-7079	
	**1	Light, Anti-Collision, Upper	Grimes	G9775-3-7079	

<u>Page No.</u>	<u>Quan Reqd</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Part or Spec. Number</u>
A-4		<u>VHF NAVIGATION SYSTEM</u>		
<u>Add the following item:</u>				
	2	VOR/LOC Instrument Unit	Collins	T344B-1 522-0887-025
A-5		<u>INTERPHONE SYSTEM (SERVICE)</u>		
From:	3	Handsets	Remler	A-255/W75675-2
To:	3	Handsets	Remler	A-255/W75675-2
	3	Handsets	Remler	A-255AD
A-7A		<u>INSTRUMENTS AND RELATED EQUIPMENT</u>		
From:	1	Indicator, Air Flow Cabin Compressor-Dual	Ham. Standard	537325
To:	1	Indicator, Airflow Cabin Compressor-Dual	Ham. Standard	537325
	1	Indicator, Airflow Cabin Compressor-Dual	Ham. Standard Weston	537325 or 185249
A-9		<u>FLIGHT INSTRUMENTS</u>		
From:	2	Indicator, Mach No. Synchrotel Transmitter-Type	Kollsman	A-29274-10-006
	1	Transmitter, Angle-of-Attack	Kollsman	68-40800-0402
To:	2	Indicator, Mach No. Synchrotel Transmitter Type	Kollsman	A-29247-10-006
	1	Transmitter, Angle- of-Attack	Kollsman	68-40800-0505
A-10		<u>HYDRAULIC EQUIPMENT</u>		
From:	2	Hydraulic Fluid Level Trans.	Simmonds	391035-01406
	2	Hydraulic Fluid Level Trans.	Simmonds	391035-02580
	**1	Nose Gear Steering Cylinder and Valve Assembly	Cleveland Pneumatic	9818B

Page No.	Quan Reqd	Description	Manufacturer	Part or Spec. Number
A-10		<u>HYDRAULIC EQUIPMENT</u> (Cont)		
To:	1	Hydraulic Fluid Level Trans.	Simmonds	391035-01406
	1	Hydraulic Fluid Level Trans.	Simmonds	391035-02580
	**1	Nose Gear Steering Cylinder and Valve Assembly	Cleveland Pneumatic	9818C

A-10A		<u>HYDRAULIC EQUIPMENT</u>		
From:	4	Main Landing Gear Door Cyl (Aft)	Thompson	K-51894
To:	*4	Main Landing Gear Door Cyl. (Aft)	Thompson	K-51894
	**4	Main Landing Gear Door Cyl. (Aft)	Thompson	K-51894-1

Add the following to bottom of page:

*Effective Ships 1 through 13.
**Effective Ships 14 and on.

A-11		<u>LANDING GEAR EQUIPMENT</u>		
From:	2	Main Oleo Shock Strut	Cleveland Pneu.	9729A-L/R or 9729C-L/R
	2	Nose Landing Gear Wheels and Brakes	Goodyear	9541334 or 9541334F, 956-479
To:	*2	Main Oleo Shock Strut	Cleveland Pneu.	9729A-L/R or 9729C-L/R
	**2	Main Oleo Shock Strut	Cleveland Pneu.	9729D
	2	Nose Landing Gear Wheels and Brakes	Goodyear	9541334 or 9541334F, 9560479

A-12A		<u>FURNISHINGS</u>		
From:	1	Tank Assembly, Water	Convair	22-95400

<u>Page No.</u>	<u>Quan Reqd</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Part or Spec. Number</u>
A-12A		<u>FURNISHINGS</u> (Cont)		
	#1	Tank Assembly, Water	Convair	22-95400
	##1	Tank Assembly, Water	Convair	22-95400-1
A-13		<u>FURNISHINGS</u>		
From:	1	Toilet Tank and Hardware	Convair	22-93802 (Fwd Lav)
	2	Toilet Tank and Hardware	Convair	22-94802 (Aft Lav)
	004	Buffet		
		No. 1	Nordskog Co.	
		No. 2	Nordskog Co.	
		No. 3	Nordskog Co.	
		No. 4	Nordskog Co.	
	2	Coffee Makers (200-Volt, 3-Phase, 400-Cycle, A/C 28v d-c	Nordskog Co.	5045E
To:	01	Toilet Tank and Hardware	Convair	22-93802 (Fwd Lav)
	02	Toilet Tank and Hardware	Convair	22-94802 (Aft Lav)
	001	Toilet Tank and Hardware	Convair	22-09576-805 (Fwd Lav)
	001	Toilet Tank and Hardware	Convair	30-09407-1 (Aft L/H Lav)
	001	Toilet Tank and Hardware	Convair	30-09407-2 (Aft R/H Lav)
	004	Buffet		
		No. 1	Nordskog Co.	94-14800-004
		No. 2	Nordskog Co.	94-14800-005
		No. 3	Nordskog Co.	94-14800-007
		No. 4	Nordskog Co.	94-14800-006
	2	Coffee Makers (200-Volt, 3-Phase, 400-Cycle, A/C 28v d-c	Nordskog	5045ED
<u>Delete the following item:</u>				
	*1	Water System Pump	Cornelius Co.	3730100

A-13A FURNISHINGS

From:	1	Strap, Assist Rope, Forward Main Entrance	Convair	92238
	**1	Water System Pump	Calco	C-7010A

<u>Page No.</u>	<u>Quan Reqd</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Part or Spec. Number</u>
A-13A		<u>FURNISHINGS</u> (Cont)		
	1	Strap Assist Rope Forward	Convair	22-92238
	#1	Water System Pump	Cornelius Co.	3730100
	##1	Water System Pump	Calco	C-7010A
	###1	Water System Pump	Calco	C-7010B

Add the following to bottom of page:

#Effective Ships 1 through 10.
##Effective Ships 11 through 13.
###Effective Ships 14 and on.

A-13A-1 FURNISHINGS

From:	1	Cabinet Dispenser, Aft Lav. L/H	Convair	22-94805-3
	1	Cabinet Dispenser, Aft Lav. R/H	Convair	22-94805-4
To:	1	Cabinet Dispenser, Aft Lav. L/H	Convair	22-94803-1
	1	Cabinet Dispenser, Aft Lav. R/H	Convair	22-94803-2

A-14 PRESSURIZATION, ANTI-ICING AND AIR CONDITIONING EQUIPMENT

From:	2	Freon Compressors	Ham. Standard	561254
	2	Freon Condensers	Ham. Standard	550281
	1	Controller, Cabin Pressure	AiResearch	102290-3
To:	ø2	Freon Compressors	Ham. Standard	561254
	øø2	Freon Compressors	Ham. Standard	573960
	ø2	Freon Condensers	Ham. Standard	550281
	øø2	Freon Condensers	Ham. Standard	574028
	ø1	Controller, Cabin Pressure	AiResearch	102290-3
	øø1	Controller, Cabin Pressure	AiResearch	102290-4

A-18 FIRE EXTINGUISHING EQUIPMENT

From:	4	Containers	Walter Kidde	891154-03
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<u>Page</u> <u>No.</u>	<u>Quan</u> <u>Reqd</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Part or Spec.</u> <u>Number</u>
A-18		<u>FIRE EXTINGUISHING EQUIPMENT</u>	(Cont)	
To:	*4	Containers	Walter Kidde	891154-03
	**4	Containers	Walter Kidde	891154-04

Add the following to bottom of page:

*Effective Ships 1 through 13.
**Effective Ships 14 and on.

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

C O N V A I R

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-003

DATE: _____

CUSTOMER: Delta Air Lines

MCL _____ DTD _____

CHANGE NO: 19H

MODEL: 22-2 (Convair "830")

TITLE Manufacturer's Name and/or Part Number		
ORIGIN: Customer approved specific designations for items of Convair furnished equipment		
REASON FOR CHANGE: To identify equipment items listed in Appendix I-C		
EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	INCH LB.
EFFECT ON GUARANTEED PERFORMANCE: * <div style="text-align: center;">None</div>		
* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:		<div style="text-align: center; height: 60px;">ENGINEERING APPROVAL</div>
LATEST DATE OF ACCEPTANCE:		AIRPLANES AFFECTED:
SPECIAL PROVISIONS:		EFFECT ON PRICE PER AIRPLANE: RECURRING: _____ NON-RECURRING: _____ TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

Title: Manufacturer's Name and/or Part Number

Origin: Customer approved specific designations for items of Convair furnished equipment.

Reason for Change: To identify equipment items listed in Appendix I-C.

Appendix I-C: Change or add Manufacturer's name and or part numbers to items so as to read as follows:

<u>Page No.</u>	<u>Quan. Req'd.</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Part or Spec. Number</u>
A-1	<u>POWER PLANT EQUIPMENT</u>			
	*4	Pressure Ratio Trans-	Kollsman	A33041-50-025
		mitter		
	**4	Pressure Ratio Trans-	Kollsman	C33041-50-433
		mitter		
A-7	<u>INSTRUMENTS AND RELATED EQUIPMENT</u>			
	4	Tachometer indicator	Gen Electric	8DJ81-LAW-1
A-8	1	Stabilizer Computer, Consisting of:	Sperry	1776002-5
	1	1 Servo Amplifier	Sperry	619298-5
		2 Servo Amplifier	Sperry	619298-4
		1 Safety Monitor	Sperry	1775389-1
		1 Trim Coupler	Sperry	1775390-7
		1 Stabilizer Computer Rack	Sperry	1776258-1
	1	Flight Control Computer Consisting of:	Sperry	1776003-21
		1 Yaw Command Computer	Sperry	620134-3
		1 Roll Command Com- puter	Sperry	1775339-3
		1 Pitch Command Com- puter	Sperry	1775391-4
		1 Radio Coupler	Sperry	1775388-4 or 1782104-4
		1 Pressure Computer	Sperry	1775882-10 or 1784027
		1 Interlock Rack	Sperry	1775392-3

*Effective ships 1 thru 7

**Effective ships 8 thru 13

A-8 (Cont)

1	Vertical Gyro	Sperry	2585297
1	Rudder Servo Drive	Sperry	615743-09
1	Elevator Servo Drive	Sperry	615743-03
1	Aileron Servo Drive	Sperry	615743-10
1	Auto-Pilot Indicator	Sperry	1776004-5
1	Trim Servo Motor and Drive	Sperry	1778879-21

A-9	1	Indicator, Master True Airspeed	Kollsman	A29277-10-00
			or	B29277-10-00

A-10 HYDRAULIC EQUIPMENT

2	Flap Actuating Motors	Vickers	MF-016B007A
4	Main System Pumps, (Variable Displacement Type)	Vickers	AS61695-L-2
1	Auxiliary Electric Pump	N.Y. Air Brake	165W01008-2

A-11 LANDING GEAR EQUIPMENT

2	Main Oleo Shock Strut	Cleveland Pneumatic	or	9729A-L & R
2	Nose Gear Wheel	Goodyear	or	9729C-L & R
			or	9541334
8	MLG Wheels	Goodyear	or	9541334F
			or	9541333
				9541333F

A-12 FURNISHINGS

3	Stewardess Seats	Convair	22-93513-1
			22-93529-1
			22-93503-801
7	Passenger Seats L/H Double	Convair	22-92501-809
8	Passenger Seats L/H Double	Convair	22-92501-809
7	Passenger Seats R/H Double	Convair	22-92501-806
8	Passenger Seats R/H Double	Convair	22-92501-816
1	Passenger Seats (Special Double L/H)	Convair	22-92501-819
1	Passenger Seat (Special Double R/H)	Convair	22-92501-819
1	Toilet Tissue Dispenser	Convair	22-93803
			(Fwd Lav)
1	Toilet Tissue Dispenser	Convair	22-94804-3
			(Aft Lav L/H)
1	Toilet Tissue Dispenser	Convair	22-94804-4
			(Aft Lav R/H)

	2	Soap Dispensers Cake	Convair	22-94806-3
	1	Soap Dispenser Cake	Convair	22-94806-4
<u>Delete</u>	3	Towel Dispenser Units (each consisting of three dispensers; two universal for either linen or paper and one for paper only)		
A-12A	1	Passenger Seat (Double) with Food Tray Receptacle - L/H	Convair	22-92501-807
	1	Passenger Seat (Double) with Food Tray Receptacle - L/H	Convair	22-92501-813
	1	Passenger Seat (Double) with Food Tray Receptacle - R/H	Convair	22-92501-808
	1	Passenger Seat (Double) with Food Tray Receptacle - R/H	Convair	22-92501-814
<u>Delete</u>	3	Cleansing Tissue Dispensers	Convair	22-93803 (Fwd Lav)
			Convair	22-94803 (Aft Lav)
A-13	1	Airplane Check-off List	Convair	22-91909-809
A-13A	<u>Add</u> the following:			
	1	Cabinet Dispenser - Fwd Lav. Consisting of:	Convair	22-93803-1
	1	Cleansing Tissue Dispenser		
	2	Universal Dispenser (Linen or Paper)		
	1	Dispenser - Paper Towels		
	1	Soap Dispenser		
	1	Cabinet Dispenser - Fwd Lav Consisting of:	Convair	22-92839
	1	Sanitary Napkin Dispenser		
	1	Air Sickness Bags Dispenser		
	1	Toilet Tissue Dispenser		
	1	Cabinet Dispenser - Aft Lav Consisting of:	Convair	22-94803-1
	1	Air Sickness Bags Dispenser		
	2	Universal Dispenser (Linen or Paper)		
	1	Dispenser - Paper Towels		
	1	Cleansing Tissue Dispenser		
	1	Sanitary Napkin Dispenser		

CONVAIR: SD

Delta Air Lines
Change No. 19H

Page 4 of 4

- 1 Cabinet Dispenser - Aft Lav. Convair 22-94804-1
Consisting of:
1 Air Sickness Bags Dispenser
2 Universal Dispenser (Linen or Paper
1 Dispenser Paper Towels
1 Cleaning Tissue Dispenser
1 Sanitary Napkin Dispenser

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 15 November 1957

CUSTOMER: Delta Air Lines

MCL Dtd

CHANGE NO: 19C

MODEL: (880) 22-2

TITLE: **Manufacturer's Name and/or Part Number**

ORIGIN: **Customer-approved specific designation for items of Contractor-furnished equipment as noted.**

REASON FOR CHANGE: **To identify Equipment items listed in APPENDIX I-C.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is not required since it is prepared only to record designations already approved by CAC procedure.

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring:

Non-Recurring

Total:

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY:

BY:

DATE:

Chief of Contract Administration
Commercial

CONVAIR: SD

Delta Air Lines
Change No. 19C
15 November 1957
Page 1 of 4

Title: Manufacturer's Name and/or Part Number

Origin: Customer-approved specific designations for items of Contractor-furnished equipment as noted.

Reason for Change: To identify Equipment items listed in APPENDIX I-C.

Description of Change:

APPENDIX I-C: Change or add Manufacturer's Names and/or Part Numbers to items noted so as to read as follows:

Page No.	Quan. Req'd	Description	Manufacturer	Part or Spec. Number
-1		<u>FUEL SYSTEM EQUIPMENT</u>		
	4	Pressure Refueling Adapter	Parker Aircraft	1327-575699
	4	Cap-Pressure Fuel Servicing(Flush)	Parker Aircraft	1327-575806
		(WAS 4 Underwing Refueling Units)		
	4	Emergency Fuel Shut-off Valve	General Contr.	AV16B1421B
		(WAS 4 Firewall Shut-off Valve)		
-1		<u>OIL SYSTEM EQUIPMENT</u>		
	4	Engine Oil Temperature Indicator	Lewis Engr.	162C23
		(WAS 4 Engine Oil Temperature Gage)		
-3		<u>ELECTRICAL EQUIPMENT</u>		
	1	External Power Receptacle (AC)	Cannon Electric Burton Electric Joy Mfg. Co. A. & J.M. Anderson	AN 3114-1B: 17175-106 255 A6-437M6 4627
	4	Loadmeters (DC)	Gen. Electric	8 DW 84AAB2
	4	Loadmeters (AC)	Gen. Electric	8 AW 61AAB2
	1	Voltmeter (DC)	Gen. Electric	8 DW 84VVB2
	1	Voltmeter (AC)	Gen. Electric	8 AW 61VVB2
	2	Transformer, 1-Phase Stepdown	Osborne	6781

Page No.	Quan. Reqd.	Description	Manufacturer	Part or Spec. Number
3	2	Transformer, 3-Phase	Osborne	6784
Cont)	2	Power Failure Warning Unit	Hartman	AV-869
	4	Ignition Switch	Micro	V3-1
	4	Transformer Rectifier	Chatham	28VS50
	4	Line and Bus Tie Contactor	Gen. Electric	B-124A
		(WAS 8 A-C Tie Breakers)		
	4	Control Panel-Regulator (AC)	Gen. Electric	3S2781F125A1
		(WAS 4 A-C Control Panel)		
		4 A-C Voltage Regulator)		
	1	External Power Relay	Gen. Electric	A-874F
	4	Generator - 40KVA	Gen. Electric	2CM211A1
	1	Battery Relay	Hartman	A-718K
	1	Bus Tie Contactor (DC)	Hartman	A-876
		(WAS 5 Main Line Contactor)		

HF COMMUNICATION

1	Antenna Coupler	Collins	180 R-4
	(WAS 1 Load Coil)		

INTERPHONE SYSTEM (FLIGHT)

4	Microphones	Telephonics	R8-38E
4	Headset	Telephonics	TC136B
2	Cockpit Speaker	Quam	4A07Z45

PASSENGER ENTERTAINMENT (PA) SYSTEM

1	Tape Reproducer Presto per	Presto	MPB 600
	ARINC 539		

ATC TRANSPONDER ANTENNA

2	Antenna - "L" Band Stub	Electronic Spec.	LB-147-A
	(WAS 1 Antenna)		

Page No.	Quan. Read.	Description	Manufacturer	Part or Spec. Number
-7		<u>INSTRUMENTS AND RELATED EQUIPMENT</u>		
	1	Cabin Temperature Indicator	Lewis Engr.	162C21
	1	Outside Air Temperature Bulb	Lewis Engr.	54B-1
	1	Dual Cabin Altitude and Differential Pressure Indicator (WAS 1 Cabin Altitude Indicator)	Kollsman	B26395-10-004
	1	Cabin Rate of Climb Indicator	Pioneer Cent.	1653-6AB-A6-1
	2	Clock	Wakeman	W33-7530-10
	4	Exhaust Temperature Indicator	Honeywell	JG 116A Type
	1	Flap Position Indicator (Dual)	Gen. Electric	8DJ91LAB-1
	1	Magnetic Compass	U.S. Gauge	C-4B
	2	Pressure Indicator (Hydraulic)	U.S. Gauge	SRL-07 Plus Range Markings
	1	Ram Air Temperature Indicator (WAS 1 Outside Air Temp. Indicator)	Lewis Engr.	161BCL2
	2	Rate of Climb Indicator	Pioneer Cent.	1653-6AB-A6-1
	4	Tachometer Indicator	Gen. Electric	8DJ81-LAB
	2	Turn and Bank Indicator (Elec.)	Pioneer Cent.	3920-1AD-A1-1
	4	Fuel Quantity Indicator Repeater: 2 Fuel Quantity Indicator	Simmonds	383093-01581
		2 Fuel Quantity Indicator (WAS AR Fuel Quantity Ind., direct reading)	Simmonds	383093-01582
	4	Fuel Quantity Ind. (Counter- Pointer type): 2 Fuel Quantity Indicator	Simmonds	383053-01581
		2 Fuel Quantity Indicator (WAS 4 Fuel Quantity Indicator)	Simmonds	383053-01582
	1	Fuel Quantity Totalizer Ind.	Simmonds	383053-04585
	4	Fuel Quantity Compensators	Simmonds	300047-13001
	32	Fuel Quantity Probe: 2 Fuel Quantity Probe	Simmonds	381056-01277
		2 " " "	"	381056-02278
		2 " " "	"	381056-02279
		2 " " "	"	381056-02280
		2 " " "	"	381056-02281
		2 " " "	"	381056-02282
		2 " " "	"	381056-02283
		2 " " "	"	381056-02284
		2 " " "	"	381056-02285
		2 " " "	"	381056-02286
		2 " " "	"	381056-02287
		2 " " "	"	381056-02288
		2 " " "	"	381056-02289
		2 " " "	"	381056-02290
		2 " " "	"	381056-02291
		2 " " "	"	381056-02292

Page No.	Quan. Reqd.	Description	Manufacturer	Part or Spec. Number
-9		<u>FLIGHT INSTRUMENTS</u> <u>Kollsman Integrated Instrument System</u>		
	2	Altimeter Scale Error and Corrector Package (WAS 2 Altimeter)	Kollsman	A30410-00-001
	2	Indicator, Airspeed - Angle of Attack	Kollsman	A29297-10 Plus Range Markings
	1	Indicator, Master Static Air Temp. (WAS 1 Ind. True Outside Air Temp.)	Kollsman	A29257-10-001
	1	Indicator, Master True Air Speed	Kollsman	A29277-10-001
	1	Indicator, Mach No. Synchotel, Transmitter Type	Kollsman	A29247-10-001
-10		<u>HYDRAULIC EQUIPMENT</u>		
	4	Main System Pumps (Variable displacement type)	Ham. Standard	521415
	2	Accumulator (100 cu. in)	Redco Tool	8404-001, Type A
	6	Accumulator	P/N to be supplied	
	4	Spoiler Actuating Cylinders Inboard	Peacock Engr.	51165
	8	Spoiler Actuating Cylinders Outboard	Peacock Engr.	51170
	2	Main Relief Valves	Dole Valve	80037
	4	Filter, Low Pressure	Aircraft Porous	AC-1373-16
	2	Filter, High Pressure, 5 GPM	Purolator Prod.	-60878
	4	Filter, High Pressure, 16 GPM	Aircraft Porous	AC-1574-12
	1	Anti-Skid Control Valve	Hydro Aire	38-103
	4	Anti-Skid Control Valve	Hydro Aire	38-099
-12		<u>FURNISHINGS</u>		
		Buffet (4 Units) #1	Convair	22-93002
		#2 and #3	Convair	22-93005
		#4	Convair	22-93009
-16		<u>PYROTECHNICS</u>		
	2	Flares	Kilgore Mfg.	Wiley Type S.A.8

CONVAIR, A Div. of Gen. Dyn. Corp.
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPCO NO: ED-22-003 DATE: _____
CUSTOMER: Delta Air Lines Inc. MCL 10,055 Dtd 16 May 1957
CHANGE NO: 18B MODEL: (880) 22-2

TITLE: Increase of Landing Weight to 130,000 pounds.

ORIGIN: Meeting of 24 April 1957 between Convair and Delta Representatives.

REASON FOR CHANGE: Customer request to replace existing brakes with larger brakes to suit revised landing weight and specified types of tires. (Revision to CCP No. 18A dated 16 May 1957.)

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-68.2 lbs

-68.2 lbs

-115,519

Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

Noted on attached exhibit.

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

DATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

Title: Increase of Landing Weight to 130,000 Pounds

Origin: Meeting of 24 April 1957 between Delta and Contractor Representatives.

Reason for Change: Customer request to replace existing brakes with larger brakes to suit revised landing weight and specified types of tires. (Revision to CCP No. 18A dated 16 May 1957.)

Description of Change:

Page 10, Paragraph 3.1.1 GUARANTEED PERFORMANCE:

Change the following paragraph:

From: "CAA landing distance (intended destination) at sea level over 50 ft obstacle in accordance with CAR 4b with weight of 123,500 lb ft ±5% 5,650."

To: "CAA landing distance (intended destination) at sea level over 50 ft obstacle in accordance with CAR 4b with weight of 130,000 lb ft ±5% 5,900."

From: "Maximum allowable landing weight at sea level in accordance with CAR 4b climb requirements lb 123,500."

To: "Maximum allowable landing weight at sea level in accordance with CAR 4b climb requirements lb 130,000."

Page 17, Paragraph 3.4.1 STRENGTH:

Change: Maximum Landing Weight 123,500**

To: Maximum Landing Weight 130,000."

Delete note at bottom of page on Maximum Structural Landing Weight.

Page All - APPENDIX I-C, LANDING GEAR EQUIPMENT:

Delete entire page and replace with the following:

" 2	Main Oleo Shock Strut		
8	Main Wheels	Goodyear	9541333 PD860
8	Main Wheel Brakes	Goodyear	9560388 PD860
8	Main Wheel Tires (39 x 13)	U.S. Rubber	20 P.R. Type VII HP
1	Nose Oleo Shock Strut		
2	Nose Wheels	Goodyear	9541334 PD875
2	Nose Wheel Tires (29 x 7.7)	U.S. Rubber	12 P.R. Type VII HP
1	Nose Wheel Brake	Goodyear	9560389 PD875

LANDING GEAR WHEEL, BRAKE, AND TIRE, DESIGN WEIGHT

MAIN GEAR

8	Wheels @	65.2 lb ea	- - - - -	521.6 lb
8	Brakes @	120.3 lb ea	- - - - -	962.4 lb
8	Tires @	84.1 lb ea	- - - - -	672.8 lb
	(Tubeless)			<u>2156.8 lb</u>

NOSE GEAR

2	Wheels @	35.7 lb ea	- - - - -	71.4 lb
2	Brakes @	84.0 lb ea	- - - - -	168.0 lb
2	Tires @	33.8 lb ea	- - - - -	67.6 lb
	(Tubeless)			<u>307.0 lb</u>

The above weights are those allotted for the specific items noted. Any change requested by the Buyer that alters these weights will affect the airplane empty weight guarantee and be subject to negotiation."

Effect on Weight Empty: -68.2 pounds
 Effect on Balance: -115,519 inch-pounds
 Effect on Performance: Noted on Exhibit

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 15 April 1957
CUSTOMER: DELTA AIR LINES MCL 10,005 Dtd 20 Feb. 1957
CHANGE NO: 17 MODEL: (880) 22-2

TITLE: **CRAF Provisions: Deletion of:**

ORIGIN: Reference: **DAL Ltr. dated 7 January 1957**

REASON FOR CHANGE: **Customer requested deletion of all reference to CRAF provisions.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

15 April 1957
Change No. 17

Title: CRAF Provisions, Deleted of:

Origin: Reference: DAL Ltr. dated 7 January 1957

Reason for Change: Customer requested deletion of all reference to CRAF provisions.

Description of Change:

Page 79, Paragraph 3.16.10.2 SIGNAL LIGHT (CRAF)
Delete paragraph.

Page 90, Paragraph 3.17.1 EQUIPMENT:
Delete the following:
Radar Identification System (CRAF)
Radar Altimeter (CRAF)

Page 91, Paragraph 3.17.1.1 CONTROL PANELS:
Delete:
Radar Identification Control (CRAF)

Page 102, Paragraph 3.17.4.2 IDENTIFICATION RADAR (CRAF):
Delete paragraph.

Effect on Weight: 0
Effect on Balance: 0
Effect on Performance: 0

Lab. Charge no. 16

(Cancelled)

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 4 June 1957
CUSTOMER: Delta Air Lines, Inc. MCL 10,077 Dtd _____
CHANGE NO: 15 MODEL: (880) 22- 2

TITLE: **Performance Data; Revisions to**

ORIGIN: **Contractor Initiated**

REASON FOR CHANGE: **To furnished Customer with latest available
performance data.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

None

None

None

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

Noted

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines, Inc.
Change No. 15
4 June 1957

Title: Performance Data; Revisions to

Origin: Contractor Initiated

Reason for Change: To furnish Customer with latest available performance data.

Description of Change:

Page 9, Paragraph 3.1.1.1 - GUARANTEED PERFORMANCE:

Under "Take-off distance.....", last three numbers on page, change:

"5,100 to 4,845
8,600 to 8,170
9,650 to 9,170".

Page 10, Paragraph 3.1.1.1 -

First item on page, change: "7,600" to "7,220".

Second item, change: "5,650" to "5,930".

Third item, "Maximum allowable take-off weight", change:

"..... shall not preclude operation at 174,025 lb.
at 173,500"

to

"..... shall not preclude operation at 179,025 lb.
at 178,500".

Effect on Weight Empty: None
Effect on Balance: None
Effect on Performance: Noted

COMMERCIAL CHANGE PROPOSAL

DATE: 3 May 1957

MCL Dtd

MODEL: (880) 22-2

Chief of Contract Administration
Commercial

CONVAIR: SD

3 May 1957
Change No. 14

Title: Revised Description of Windshield Rain Removal System
(Administrative Type Change)

Origin: Contractor Initiated

Reason for Change: To clarify intent of Detail Specification.

Description of Change:

Page 28, Paragraph 3.7.1.2.2 - RAIN REMOVAL:

~~Delete~~ second and third sentences and substitute following:

"Removal of rain shall be accomplished by air blast. This system shall utilize engine bleed air directed at high velocity across the pilot's and copilot's forward windshield panels. Overheat control and adequate protection from the hot air blast shall be provided for the windshield panels."

Effect on Weight Empty: None
Effect on Balance: None
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL _____ Dtd _____

CHANGE NO: 13A

MODEL: (880) 22-2

TITLE: **Provisions for Enlarged Cargo Door for use with Preloaded
Baggage Containers**

ORIGIN: **TWA requested, Reference: RFC No. 3.19-31 and Item 4, Part IV
of TWA Change Order No. 1; and Contractor proposed for Delta.**

REASON FOR CHANGE: **To allow for later incorporation of preloaded baggage
containers.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0

Inch I.b.

EFFECT ON GUARANTEED PERFORMANCE: * **None**

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Delta Air Lines Inc.
Change No. 13A

Title: Provisions for Enlarged Cargo Door for use with Preloaded
Baggage Containers

Origin: TWA requested, Reference: RFC No. 3.19-31 and Item 4
Part IV of TWA Change Order No. 1, and Contractor proposed
for Delta

Reason for Change: To allow for later incorporation of preloaded
baggage containers

Page 30, Paragraph 3.7.1.5.4 - CARGO DOORS:

Add the following sentences to the end of paragraph:

"Ducting, tubing, wiring, etc., shall be routed to
allow for the later addition of an enlarged forward
cargo door compatible with a preloaded baggage con-
tainer system. The door opening need not exceed
approximately ~~34~~ inches fore and aft, and approximately
40 inches measured vertically from the cargo floor".

38" per S.O. 2-51

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

Cal. Charge No. 12

(Rejected)

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 6 May 1957

CUSTOMER: Delta Air Lines, Inc.

MCL 10,042 Dtd 19 April 1957

CHANGE NO: 11

MODEL: (880) 22- 2

TITLE: Oil Temperature Gages, Change from Dual to Single Instruments

ORIGIN: Contractor Initiated

REASON FOR CHANGE: To comply with instrument arrangement and description as presented and agreed to in Mock-Up Minutes. Ref.: Mock-Up Minutes Dated 25, 26 February 1957, and 30 April 1957

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+ 1.0 lb

+ 1.0 lb

Negligible Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

6 May 1957
Change No. 11

Title: Oil Temperature Gages, Change from Dual to Single Instruments

Origin: Contractor Initiated

Reason for Change: To comply with instrument arrangement and Description as presented and agreed to in Mock-Up Minutes. Ref.: Mock-Up Minutes Dated 25, 26 February 1957, and 30 April 1957

Description of Change:

Page 59, Paragraph 3.14.1.4 - FLIGHT ENGINEER'S INSTRUMENTS

Change: 4 Oil Temperature Gages (2 Dual)

To: 4 Oil Temperature Gages

Page A-1, APPENDIX I-C - OIL SYSTEM EQUIPMENT

Change: 2 Oil Temperature Gages (Dual)

To: 4 Oil Temperature Gages

Effect on Weight Empty: +1.0 lb
Effect on Balance: Negligible
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 15 March 1957

CUSTOMER: DELTA AIRLINES

MCL 22-10,007 Dtd 20 Feb. 1957

CHANGE NO: 10

MODEL: (880) 22-2

TITLE: Pitot Static Tubing Size - Change to 3/8" Diameter Section

ORIGIN: Contractor Initiated

REASON FOR CHANGE: Contractor wishes to notify that use of 3/8" Pitot static tubing will prevent retention of moisture by capillary action.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

Negligible

Negligible

Negligible

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

Acceptance by all current customers required.

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

15 March 1957
Change No. 10

Title: Pitot Static Tubing Size - Change to 3/8" Diameter Section

Origin: Contractor Initiated

Reason for Change: Contractor wishes to notify that use of 3/8" pitot static tubing will prevent retention of moisture by capillary action.

Description of Change:

Page 62, Paragraph 3.14.3.6 INSTRUMENT LINES AND CONNECTIONS:
At end of sentence "nor less than 1/4" on the pitot side"
Add: "except that pitot lines shall be 3/8 inch for a minimum of 3 feet inboard of the pitot tube connector fitting."

Effect on Weight: Negligible
Effect on Balance: Negligible
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 8 May 1957
CUSTOMER: Delta Air Lines, Inc. MCL Dtd
CHANGE NO: 9 MODEL: (880) 22-2

TITLE: **Air Conditioning System; Relief Valve Setting**

ORIGIN: **Contractor Initiated**

REASON FOR CHANGE: **Administrative Type Change to correct and clarify intent of specification.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
Guar. Wt. Empty	Oper. Wt. Empty		
None	None	None	Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring:
Non-Recurring
Total:

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY:

BY:
Chief of Contract Administration
Commercial

DATE:

CONVAIR: SD

8 May 1957
Change No. 9

Title: Air Conditioning System; Relief Valve Setting

Origin: Contractor Initiated

Reason for Change: Administrative Type Change to correct and clarify
intent of specification.

Description of Change:

Page 122, Paragraph 3.20.3.2 - RELIEF VALVE SETTING:

In second line, change 8.2 psi to 8.6 psi.

Effect on Weight Empty:	None
Effect on Balance:	None
Effect on performance:	None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: 15 March 1957
CUSTOMER: DELTA AIRLINES MCL Dtd
CHANGE NO: 8 MODEL: (880) 22- 2

TITLE: **Cable Control of Brake Metering Valves**

ORIGIN: **Contractor Initiated**

REASON FOR CHANGE: **To clarify intent of paragraph in specification.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

None

None

None

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring:

Non-Recurring

Total:

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY:

BY:

DATE:

Chief of Contract Administration
Commercial

CONVAIR: SD

15 March 1957
Change No. 8

Title: Cable Control of Brake Metering Valves

Origin: Contractor Initiated

Reason for Change: To clarify intent of paragraph in specification.

Description of Change:

Page 64, Paragraph 3.15.1.11 BRAKE VALVE:

Change paragraph to read as follows: "The brake metering valves shall be controlled by a dual cable system from the brake pedals. The brakes on the main wheels and the nose wheels shall be operated by hydraulic system No. 2.

Effect on Weight:	None
Effect on Balance:	None
Effect on Performance:	None

Cal - Charge No. 7

(Cancelled)

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 13 March 1957
CUSTOMER: Delta Air Lines MCL Dtd
CHANGE NO: 6 MODEL: (880) 22- 2

TITLE: **Operating temperature requirements and inclusion of ANA
Bulletin No. 421 requirements.**

ORIGIN: **Contractor Initated**

REASON FOR CHANGE: **To more accurately define standard hot and cold
atmospheric properties.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
Guar. Wt. Empty.	Oper. Wt. Empty		
None	None	None	Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: AIRPLANES AFFECTED:

SPECIAL PROVISIONS:
**Acceptance by all current
Customers required.**

EFFECT ON PRICE PER AIRPLANE:
Recurring:
Non-Recurring
Total:

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY:

BY:
Chief of Contract Administration
Commercial

DATE:

CONVAIR: SD

13 March 1957
Change No. 6

Title: Operating Temperature Requirements and Inclusion of ANA
Bulleting No. 421 Requirements

Origin: Contractor Initiated

Reason for Change: To more accurately define standard hot and cold
atmospheric properties.

Description of Change:

Page 16, Paragraph 3.2.5 OPERATING TEMPERATURE:

Change to read as follows:

"The airplane and its equipment shall operate satisfactorily after being soaked at temperatures from -40°F to $+120^{\circ}\text{F}$ and when flown in ambient temperatures in accordance with the extreme hot and cold atmospheres cited in ANA Bulletin No. 421 for maximum endurance possible at these temperatures."

Effect on Weight: None
Effect on Balance: None
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003 DATE: 15 March 1957
CUSTOMER: DELTA AIRLINES MCL 10,002 Dtd 20 Feb. 1957
CHANGE NO: 5 MODEL: (880) 22-2

TITLE: **Definition of use of "Ermeto" and "Wig-O-Flex" Fittings**

ORIGIN: **Contractor Initiated**

REASON FOR CHANGE: **To reduce weight and accommodate requirements of wing flexing and allow length and alignment tolerances.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

- 102.0 lb

- 102.0 lb

Negligible

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:
**Acceptance by all current
customer required.**

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

15 March 1957
Change No. 5

Title: Definition of Use of "Ermeto" and "Wig-O-Flex" Fittings

Origin: Contractor Initiated

Reason for Change: To reduce weight and accommodate requirements of wing flexing and allow length and alignment tolerances.

Description of Change:

Page 51, Paragrapy 3.12.9.6 PIPING AND FITTINGS:
Change 5th sentence regarding Ermeto fittings to read as follows: "Fittings shall be of the ermeto type except for sizes 1.00" and larger located inside the fuel tanks which shall be of the Wiggins Wig-O-Flex type".

Effect on Weight:	-102.0 lb
Effect on Balance:	Negligible
Effect on Performance:	None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 17 June 1957

CUSTOMER: Delta Air Lines, Inc.

MCL 10,071 Dtd 23 May 1957

CHANGE NO: 4

MODEL: (880) 22-2

TITLE: **Differential Switches, Bleed Air Ducts; Deletion of**

ORIGIN: **Contractor Initiated**

REASON FOR CHANGE: **It is not practical to use differential switches in system, therefore an alternate sensing system must be provided.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

None

None

None

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines, Inc.
Change No. 4
17 June 1957

Title: Differential Switches, Bleed Air Ducts; Deletion of

Origin: Contractor Initiated

Reason for Change: It is not practical to use differential switches in system, therefore an alternate sensing system must be provided.

Description of Change:

Page 121, Paragraph 3.20.2.1 - ANTI-ICING OF NONTRANSPARENT AREAS:

Delete last sentence from paragraph "(Each light shall be connected)", and substitute the following:

"Each light shall be operated by a continuous overheat detection system in order to sense bleed air duct leakage or failure."

Effect on Weight Empty: None
Effect on Balance: None
Effect on Performance: None

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-003

DATE: 19 June 1957

CUSTOMER: Delta Air Lines Inc.

MCL Dtd

CHANGE NO: 3A

MODEL: (880) 22-2

TITLE: Hydraulic System

ORIGIN: Contractor Initiated

REASON FOR CHANGE: To incorporate description of latest hydraulic system design into Specification

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

Q

Inch 1.6.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring

Total:

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Revised 28 October 1957
19 June 1957
Change No. 3A

Title: Hydraulic System

Origin: Contractor Initiated

Reason for Change: To incorporate description of latest hydraulic system design into specification

Description of Change:

Page 64, Paragraph 3.15.1.7 - RESERVOIRS:

Revise paragraph to read as follows:

"Two hydraulic reservoirs, interconnected at approximately the refill level, shall be installed aft of the main wheel well area to supply the systems. The interconnection of the reservoirs provides for common filling and common level indication. The installation of the reservoirs shall be such that the tanks may be filled by maintenance personnel at ground working level. One fluid level indicator shall be provided on the flight engineer's panel. The transmitter for this indicator shall be installed in System No. 2 reservoir and shall indicate the common level of both systems above the interconnection as well as System No. 2 level below the refill point. One sight gage shall be installed in System No. 1 reservoir and shall be accessible for daily preflight checks, and for routine maintenance use".

Figures 3.8-1 and 3.15-1

To be revised to reflect subject change.

Page A-10, APPENDIX I-C - HYDRAULIC EQUIPMENT:

Twenty-fourth item, Hydraulic Fluid Quantity Transmitter;
Change Quantity Required from 4 to 1.

Effect on Weight Empty:	0
Effect on Balance:	0
Effect on Performance:	None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: 15 March 1957
CUSTOMER: DELTA AIRLINES MCL ✓ Dtd ✓
CHANGE NO: 2 MODEL: (880) 22-2

TITLE: **Fuel Pump - Control Relay, Power Source**

ORIGIN: **Contractor Initiated**

REASON FOR CHANGE: **To clarify original intent of specification.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

None

None

None Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

15 March 1957
Change No. 2

Title: Fuel Pump - Control Relay, Power Source

Origin: Contractor Initiated

Reason for Change: To clarify original intent of specification.

Description of Change:

Page 49, Paragraph 3.12.9.2 PUMPS:

13th Line - Change sentence beginning on this line to
read as follows: "Each pump and its control relay shall
receive power from the same source."

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 3

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,147 Dtd 10 October 1957

CHANGE NO: 1

MODEL: (880) 22-2

TITLE: **Airplane Configuration, Detailed Revision to**

ORIGIN: **Contractor initiated**

REASON FOR CHANGE: **To incorporate the latest external configuration
of the airplane into the specification**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Delta Air Lines Inc.
Change No. 1

Page 1 of 4

Title: Airplane configuration, detailed revision to

Origin: Contractor initiated

Reason for Change: To incorporate the latest external configuration
of the airplane into the specification

Description of Change:

Page 13, Replace all data on the page with the following:

"3.1 CHARACTERISTICS (Cont)

3.1.3 DIMENSIONS AND DATA:

3.1.3.1 WING:

Airfoil Section Designation

Root (Extended Chord)

31.51% semi-span (break)

Tip

Incidence:

Root

Span (Aerodynamic)

Span (Overall)

Area - Total (basic trapezoid)

Root chord (basic)

(extended)

Tip Chord

Dihedral (MCP)

Aspect Ratio (basic trapezoid)

Sweep (30% Chord)

Mean Aerodynamic Chord

(basic true)

Flaps - Type

NACA 0011-64 Mod

NACA 0009.08-64 Mod

NACA 0008-64 Mod

2.0°

117' 11.9"

120' 0"

2000 sq. ft.

27' 0.7"

35' 8.4"

6' 9.0"

7.0°

7

35.0°

18' 11.3"

Double Slotted

3.1.3.2	TAIL:	
3.1.3.2.1	HORIZONTAL	
	Area	395 sq. ft.
	Dihedral	7°30'
	Sweep (30% Chord)	35.0°
3.1.3.2.2	VERTICAL:	
	Area	295 sq. ft.
	Sweep (30% Chord)	35.0°
3.1.3.3	BODY:	
	Maximum Width	11'6"
	Maximum Height	12'5"
	Length	124'2"
	Height - Overall	36'0.3"
(3.7-12)	Maximum Cabin Interior (width)	10'8"
	at constant Section	
	Cargo Compartment Capacities:	
(3.1-D2)	Forward	448 cu ft.
(3.1-D4)	Aft	402 cu ft.

Page 37, Paragraph 3.8.4.7 STEERING CONTROL:

In fourth line, change the following:

From: 18 feet 9 inches

To: 19 feet 5 inches

In ninth line, change the following:

From: 81 feet 7 inches

To: 82 feet 10 inches

Pages 39 through 42, Paragraph 3.10, SURFACE CONTROL SYSTEM:

Revise the following subparagraphs to read as follows:

"3.10.1.2 AILERON SYSTEM: Ailerons and spoilers shall be used for lateral control. The ailerons shall be manually controlled by a separate cable system from each wheel and a separate cable system in each wing connecting to the aileron flight tab. The ailerons shall be interconnected by push pull tubes. The spoilers shall be hydraulically operated and shall be used at all speeds for lateral control as well as speed brakes. The spoiler

system shall have two independent hydraulic power systems. Lateral trim shall be accomplished by an irreversible trim tab located on each aileron and operated by a control wheel in the flight deck.

- 3.10.1.3 **RUDDER SYSTEM:** The rudder shall be manually controlled by sets of rudder pedals provided for the pilot and copilot. A cable and push pull tube system shall interconnect the rudder and a spring tab on the rudder. Each set of rudder pedals shall be adjustable, fore and aft to accommodate pilots of different stature. Trim control shall be accomplished by an irreversible trim tab operated by a control wheel on the pedestal.
- 3.10.1.4 **ELEVATOR SYSTEM:** The elevator shall be manually controlled by wheel type control columns for the pilot and copilot. A cable push pull tube system shall interconnect the control columns and operate spring tabs on each elevator.
- 3.10.1.4.1 **GUST LOCKS:** Change title to "GUST PROTECTION" and revise paragraph as follows:
- Hydraulic dampers shall be installed at each aileron, elevator and the rudder surfaces to prevent structural damage due to gusts. The dampers shall not adversely affect normal control forces in flight.
- 3.10.1.5 **STABILIZER SYSTEM:** The stabilizer shall be controllable to provide longitudinal trim. Movement shall be accomplished by hydraulic power (with a standby mechanical system). A red warning light will indicate an incorrect stabilizer setting for takeoff whenever the airplane is on the ground.
- 3.10.2.1 **LIFT AND DRAG INCREASING DEVICE SYSTEMS:** The flaps shall be operated by a hydraulic motor driven gear box located in the fuselage powered by both hydraulic systems. Torque tubes shall connect the gear box to mechanical actuators at each flap section. The system shall be irreversible to prevent flap motion from airloads. The flaps shall be controlled by a lever on the pilots' pedestal. Flap position indication shall be provided. Full flap deflection shall be obtainable from either hydraulic system. A monitoring system shall be provided to prevent asymmetrical flap positioning in the event of mechanical failure.

- 3.10.2.2 **SPEED BRAKES:** (See Paragraphs 3.5.4.3 and 3.5.4.4) A separate speed brake control shall be provided in the pilots' compartment to extend the spoilers for use as speed brakes. Extension of the spoilers shall be permissible up to the V_D speeds at all altitudes.
- 3.10.5 **YAW DAMPER:** A yaw damper shall be provided to improve riding qualities and handling characteristics of the basic airplane. The airplane shall be basically stable (non-divergent) under all normal flight conditions with the yaw damper inoperative. The yaw damper shall be designed so that it will fail safe and shall not induce unsafe loads in the event of malfunctioning".
- (3.10-5)

Figure 1-1 GENERAL ARRANGEMENT, MODEL 22 JET TRANSPORT

Delete present figure from specification and substitute Enclosure: (A)

Figure 1-2, INBOARD PROFILE AND PLAN VIEW

Change figure to show revised forward and aft cargo compartment capacities and revise compartment shape.

Figure 1-3, ALTERNATE SEATING ARRANGEMENT

Change figure to show revised shape of cargo compartment spaces, in accordance with Enclosure (B)

Figure 3.1-1, C.G. DESIGN LIMITS

Replace present figure in Specification with Enclosure (C)

Enclosure: (A) Four (4) copies Figure 1-1, GENERAL ARRANGEMENT OF MODEL 22 JET TRANSPORT

Enclosure: (B) Four (4) copies of sketch showing cross section of revised cargo compartment shape

Enclosure: (C) Four (4) copies Figure 3.1-1, C.G. DESIGN LIMITS

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

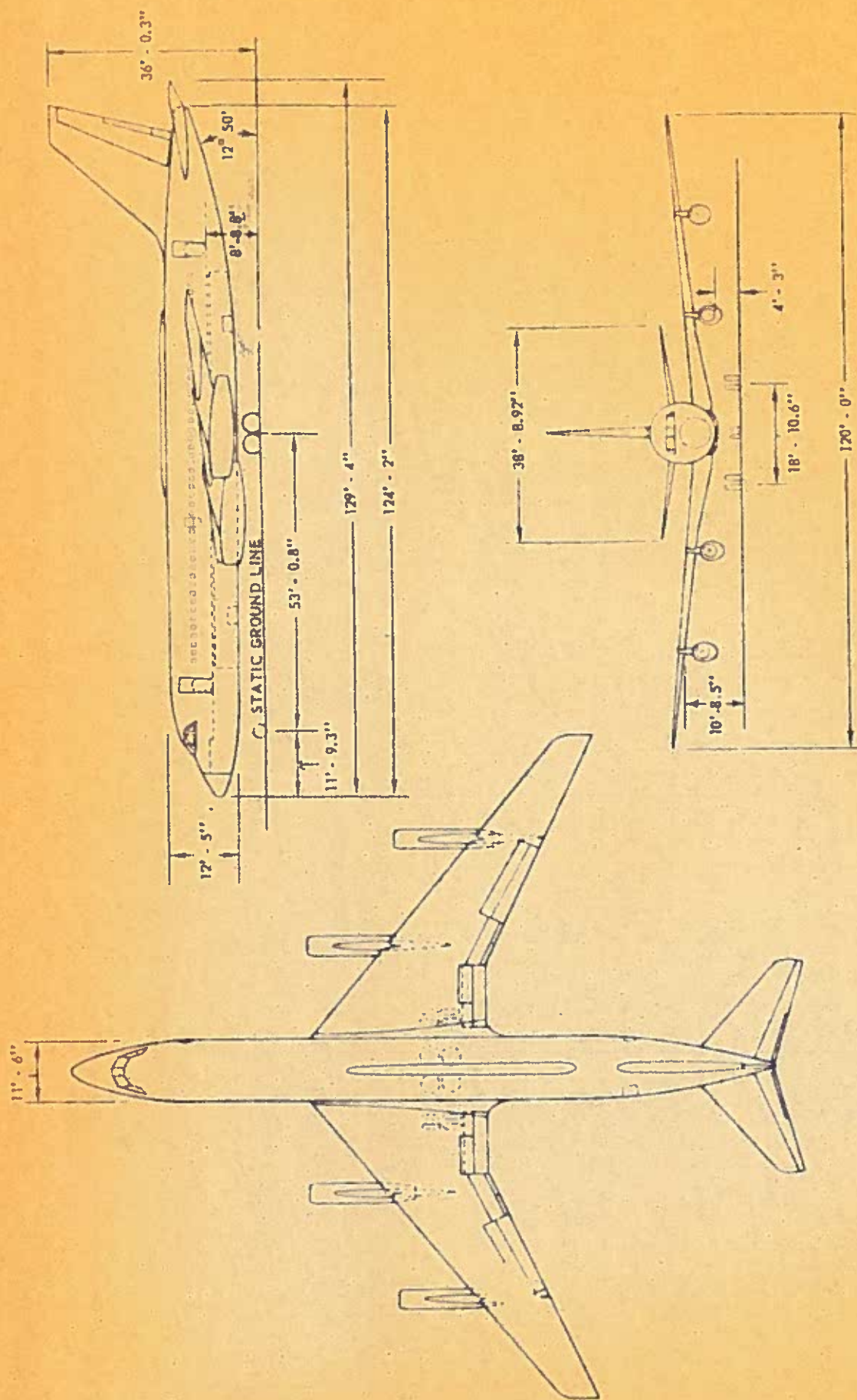


FIGURE 1-1
GENERAL ARRANGEMENT
MODEL 22 JET TRANSPORT

